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THE
AMERICAN ALPINE JOURNAL

VOLUME VIII 1953 NUMBER 3

The First Ascent of Mount Salcantay

JOHN C. OBERLIN and W. V. GRAHAM MATTHEWS

THE shadow of our plane flickered across the brown hills beneath us as the pilot brought us down toward a valley spotted with green fields and darker clumps of eucalyptus trees. Suddenly plane and shadow met in a swirl of dust, and we rolled smoothly to a stop at the edge of the city of Cuzco, one-time capital of the ancient and mighty Inca Empire of Peru.

It was a rendezvous. Four Americans climbed out of the Faucett plane to watch the growing mountain of food and equipment being discharged from its belly, Dr. Fred D. Ayres of Reed College, Portland, Oregon, Assistant Professor of Physical Chemistry; W. V. Graham Matthews, master at The Fessenden School, West Newton, Massachusetts; David Michael, Jr., banker and artist from Athens, Georgia; and John Oberlin, patent lawyer from Cleveland, Ohio. The cast was far from complete. Nearly a week later a much smaller plane floated in to Cuzco, a Piper Super-Cub flown from Pennsylvania by Dr. Austen F. Riggs of Cambridge, Massachusetts, with Dr. George I. Bell, physicist from New Mexico, as supercargo and official photographer. This was something of a feat as both men are considerably over six feet, three inches tall, probably an extreme test for this small plane and for them! For the next three days they flew to the greatest snow and ice peaks of the region and circled them at 20,000 feet. Bell took photographs furiously, if a bit haphazardly, as the plane's oxygen supply was limited and was reserved for the pilot while Bell went without. Anyhow, he hoped soon to be standing on the summit of one of the peaks, Mount Salcantay, well above 20,000 feet itself.

Soon another Faucett plane arrived bearing Mme. Claude Kogan

URUMBA GORGE NEAR SALCANTAY

Photo, G. I. Bell

of Nice, France, who had come via New York and Miami, and M. Bernard Pierre of Paris, France, who had come via North Africa (Dakar). Claude Kogan had been on the 1951 French expedition to Peru which made the first ascent of the great ice peak, Alpamayo, and she had distinguished herself by breaking the world's altitude record for an all-feminine party, in company with Mme. Leininger. Mount Alpamayo, incidentally, had distinguished *itself,* some time previously, by dropping an entire party of three Swiss climbers through one of its huge snow cornices and some hundreds of feet down its icy flanks. Oddly enough, all three survived.

We believe ours was the first Franco-American mountaineering expedition in history. We all hoped it would be successful. In 1950 three of the Americans, after Mount Yerupaja (A.A.J., 1951) had been climbed, rode and hiked in to Mount Salcantay, which is in the Cordillera Vilcabamba of southern Peru and the most spectacular peak of the region, rising 20,574 feet into the sky, its snow-white slopes fluted by avalanches and its ridges broken by cliffs and pinnacles of ice. They did not find a route up it, but they did form some ideas about one. Hiram Bingham, Yale Professor, later U.S. Senator, and the discoverer of Macchu Picchu, "Last City of the Incas," who had passed by Salcantay many years before, had made no attempt to climb it, although no mean alpinist himself. But he did suggest that it would prove a challenge, and such it had remained until 1952.

While the early comers awaited the arrival of the French members of the expedition, two great festivals took place at Cuzco. The first, the fiesta of Corpus Christi, consisted of a magnificent procession of tremendous images carried from the Cathedral by the Indians and moved slowly around the plaza. A number were fully twenty feet high and so heavy that the groups of twenty or thirty Indians shouldering the beams on which each rested could barely stagger with their burdens. A little band with flutes, drums, and conches followed each great figure in its lurching, swaying course.

The other fiesta was a pageant before the colossal walls of the Incaic fortress of Sacsahuaman, celebrating the mid-winter solstice. (As we were south of the equator, it was winter in Peru.) Fifty thousand Indians swarmed like ants upon the ramparts and on the granite hill known as the Inca's throne on the opposite side of the parade ground. A long line of Indian mayors in red ponchos, black

knee breeches, and cartwheel hats filed in to open the ceremonies. The old ceremony of sun worship was re-enacted by the "Inca for a day," and then a series of wild dances was performed. Beer and "chicha" flowed in quantity and little wisps of smoke floated up here and there where spectators cooked a light snack. When the formalities were over, the audience poured down upon the parade ground to surround the groups of dancers who continued as wildly as ever and indeed were still gyrating through the streets of Cuzco next day.

When finally we were all in Cuzco except Dr. Jean Guillemin, the expedition doctor and a veteran of the 1951 Alpamayo expedition, we loaded our gear in a big truck with the assistance of Senora Mayaly Flury and Senor Abel Pacheco Cano and were soon sailing down the highway with Abel at the wheel, bound for Limatambo where we would hit the trail for Salcantay. En route we stopped at the well-known hacienda of La Joya, belonging to Abel's family and there met his brother Leonidas. Both Abel and Leo are ardent and versatile sportsmen, riding, hunting, cock-fighting and auto racing in dashing but expert fashion. Abel was shortly to add mountain-climbing to his repertoire. After an elegant meal of many courses we re-embarked and were soon descending a series of zigzags into the depths of the valley where Limatambo is situated. Nearby, in a small hacienda set about with banana and lime trees we sorted and packed our food and equipment for loading on horses and mules.

It was drizzling when we left on June 29th, and our long caravan was soon strung out along the trail. Most of the climbing party walked the greater part of the day in the possibly mistaken notion that it would assist acclimatization. By late afternoon we were high up the flank of a treeless side valley, following an ancient watercourse contouring the slope, and it was nearly dark when we arrived at Ccollpa, a group of four or five one-room farm houses with dirt floors, loose rock walls, and thatched roofs. We were invited to enter one of the houses, which was placed at our disposal; so we waded through the barnyard mud to the low doorway with its door of skin on a frame of sticks. Inside, an old woman was cooking over a little fire in a corner and the smoke seeped out through the thatch. While this made the house appear to be afire, it did creosote the roof very effectively, making it vermin-free and

water-proof. After a night packed together on the floor, we awoke to the dismal sight of falling snow. The next pass was blocked as far as horses were concerned, and the expedition dropped everything and returned to the flesh-pots of Limatambo and Cuzco, leaving Fred Ayres, George Bell, John Oberlin, and one Indian to keep track of things and explore the passes.

When the main body returned more than a week later, this time with Dr. Jean Guillemin, the three had seen enough of Ccollpa. The Indian, however, didn't seem to mind. We now had 29 horses, 10 mules and 14 Indians, so a more impressive cavalcade had probably never passed that way since the day of the last Inca. Fred Ayres chased butterflies with net and cyanide jar as we trudged along the trail, but butterfly-hunting is a strenuous sport above 12,000 feet. Most of the butterflies flew too fast.

One afternoon, while we were bogged down by snow at Ccollpa, a bearded Peruvian-Swiss mountaineer by the name of Marx strode in with a harrowing tale. He and Marcus Brönnimann, with the latter's wife and a couple of porters, had gone in to Salcantay some weeks before. Marx reported that the two of them had climbed Salcantay under arduous conditions—including four bivouacs—and that Brönnimann had had an accident on the way down. Marx was now going out for more food for the frost-bitten Brönnimann and the rest of the party who were snowbound at Palcaycasa Pass. Needless to say, this was disquieting news, but our plans remained unchanged; much later we learned of the incompleteness of Marx's report. Courageous as their attempt was, they retreated considerably short of the true summit.

Getting over the first pass, Cruzcasa, was no particular problem as most of the snow and ice had melted, and an occasional swish of the ice-axe was all that was needed. The descent of the dry northern side was even easier. We then wound our way up along the banks of the meandering Pampacahuana River to the foot of the Paso de Palcaycasa. The upper part looked thoroughly snowed in, but we had hopes that the lower portion of the barrier which rose 1800 feet above us would be easy. George Bell and Abel set out bravely on horses, while the rest of us lolled in the sunshine. We soon noted that they left the horses behind. By the time George and Abel returned late in the afternoon we knew that plenty of work lay ahead.

SALCANTAY FROM WEST

Photo, G. I. Bell

The next two days all the troops fell out with ice-axes and shovels to hack away at the snow and ice. It was tiring work, but the Indians who worked eight and more hours barefoot in the snow without complaint excited our wonder and admiration. Finally, with the continuing sunshine, we decided on July 12th to risk some animals; by early afternoon nearly half of the expedition gear was dumped near a small lake on the dry side of the pass. George and Claude went ahead to reconnoiter for a base camp and returned with the encouraging news that a suitable place at about 15,200 feet had been found on the north-eastern flank of the mountain.

By evening of the next day we were all in base camp, and the equipment was pouring in. On the day following, Bastille Day, the Americans were up early. David Michael ("Georgia") had fortunately brought some firecrackers which were used to good effect to arouse the French. After they had recovered from the powder burns, they were quite cheerful, and Bernard Pierre made a hilarious speech in honor of the occasion. We spent most of the day in organizing base camp. Late that afternoon we were startled by the appearance of a lone Indian: he brought a message in spasmodic Spanish saying that John Oberlin's mother was seriously ill. John left the next morning for Cuzco, and our brief spell of good weather left too. Sleet, then snow, covered the ground, while the peaks became shrouded in clouds. During three days of dubious weather the French educated the porters in the use of crampons and ice-axes, and George Bell and David Michael put up a route to Camp 1, at 17,000 feet.

From base camp the route led across grassy slopes to a narrow pass in a rocky ridge, then along a tedious and steep grass slope to a level glacier. We crossed the glacier diagonally and gained a large tongue of rock at the upper end of which we established a tent and equipment cache. Immediately above this the ice work proper began. Getting onto the glacier was not easy; about 70 feet of steep ice necessitated many steps and a fixed rope. Then steep slopes of nevé led eventually to a broad snow shelf at the base of a high rocky overhang—an ideal and well-protected spot for Camp 1.

July 19th saw the return of both John Oberlin and good weather, while loads were being moved to Camp 1. By July 21st all the climbers were in Camp 1, the route to Camp 2 had been scouted, and porters had taken some loads as far as was deemed safe

SUMMIT PORTION OF SALCANTAY FROM SOUTHWEST
Photo, G. I. Bell

above Camp 1. The route above Camp 1 was devious. It wound around crevasses without much difficulty, but it was then necessary to cross the lower part of the chute, a broad gully which was obviously constantly being avalanched by ice, rocks, and snow from the higher cliffs. The farther side of the chute offered steep slopes with protecting crevasses where loads could be safely cached. It was then necessary to crouch under a somewhat protecting snow buttress and make a dash across the worst part of the chute which was under almost continuous bombardment. At about 17,700 feet this was a breathless affair. We were fortunate indeed that all our crossings were made without mishap, although there were several close calls. Every day we found our previous steps obliterated. Once across the chute, the route led upward and then traversed below beetling rock cliffs, with an occasional threatening serac. Two steep pitches, on one of which a fixed rope was decidedly pleasant, then followed, and a short traverse brought one to Camp 2 on a gently sloping shelf on the brink of an enormous gully topped by hanging glaciers. Here our last camp at 18,200 feet was pitched, at the base of the great cone, a monstrous structure of ice shaped very much like an inverted ice cream cone.

All seven climbers packed loads from Camp 1 on July 22nd and established Camp 2 with two tents, leaving Fred Ayres, George Bell, Claude Kogan, and Bernard Pierre there with enough food for three days and with the hopes that they could make a try for the summit on the next day, or surely the day following. Subsequent experience was to show how far away the summit really was. Graham Matthews, David ("Georgia") Michael, and John Oberlin returned to Camp 1 in a little over an hour where Dr. Jean Guillemin had just arrived with four heavily laden porters and the news that the porters would bring more loads to the cache the next day. That evening we completed a fine snowhouse which Georgia had begun and ate supper in great style and comfort. Outside it began to snow.

The morning brought cloudy weather. While the three of us at Camp 1 went down to pick up the loads at the cache, the others were becoming acquainted with the cone. The route led along the delicate lower lip of a crevasse to a point where an hour's hard work by Bell made a crossing possible. Fifty feet up a steep snow slope brought one to another crevasse which could be crossed without too much

difficulty. Then Claude Kogan took the lead and chopped out 150 feet of steps in ice to the next crevasse. Here, too, a fixed rope was more than comforting. A short diagonal traverse beneath the crevasse led to a place that could be crossed. But from this point on, the cone proper began, and the route was only too clear: UP! Deteriorating weather, however, drove the high party back to Camp 2, and by 4:30 P.M. it was snowing heavily. Fred, George, Claude, and Bernard returned in the snow the next morning to Camp 1, and we reluctantly decided that a general evacuation to base camp was dictated by the weather.

Two days of snow brought operations to a standstill, and his vacation's end forced John Oberlin to leave for the U. S. The summit seemed farther away than ever.

July 27th, however, brought such a welcome clearing in the weather that we made haste to reoccupy Camp 1. Most of the tents had collapsed and almost everything was soaking wet. With clear skies the next morning we brought another tent up to Camp 2 so that eventually all six could stay there. Good weather the following morning induced George, Georgia, and Graham to work on the route, while Fred, Claude, and Bernard, who had all returned to Camp 1, relayed loads. The first three excavated the fixed rope, then began attacking the cone itself. It proved to be unending and dazzling ice at a severe angle. The work went slowly. By late afternoon we were near the top of the cone; we had set some 350 feet of fixed rope. The top of the cone ended in a cornice, but a small break allowed a man to descend a fixed rope to a shelf over which the cornice hung. Although the light came through the cornice, and it was by all laws an extremely unsafe place, it seemed like a haven, for it was the only spot in hundreds of feet that was level and protected from the wind. To the south of the cornice cone a gully stretched upward for about 400 feet at about the same high angle as the cone itself. Entrance to the gully via the shelf was reasonably easy; the gully itself, however, in many places seemed to be held together mostly by mirrors. Nonetheless, it looked feasible, and in any event there was no choice. Tired, we returned to Camp 2 at 4:30 P.M., determined to take another day in preparing the route and try for the summit the next day.

The following morning Fred and Georgia left Camp 2 at 8:30, quickly ascended the long line of fixed ropes, and then put up some

200 feet of fixed rope in the gully, returning at 3:00 P.M. with the report that the top of the gully was still a long way off. In the meantime, Claude and Bernard had taken a spare climbing rope and were using it to replace one of the lengths of lighter fixed ropes above Camp 2; we were rapidly exhausting our supply of reepschnur, and everything, including tent ropes and shoe laces, was being pressed into service. Shortly after noon some first flakes of snow began falling; by mid-afternoon it was snowing steadily. After supper that night, as we lay in our sleeping bags hoping for good weather for our summit try, we heard the dull roar of an avalanche beginning far above us. This was mildly interesting, as we had heard many pour down the great gulf north of our campsite. The roar, however, continued and grew until it was overpowering. Something big was definitely happening. Claude climbed out of her tent and cried, "Look! Look!" (in French). This would have been rather difficult for me, as my head was trying to catch up to my heart which had fled to the bottom of the sleeping bag. Sure enough, the air was filled with snow dust, obscuring the pale moon. Fortunately, the avalanche was confined to the gully, and the tons of hurtling ice roared past us. When we looked at the hanging glaciers the next morning, we could detect no change.

July 31st, the projected great day, was not good. Again we decided to evacuate, rather than stay on, consuming our supplies. Fred and George remained at Camp 1, while the rest of us descended to base camp. Two days later the weather again improved, and we saw Fred and George go up to Camp 2. On August 3rd the weather was really good, and we saw Fred and George working on the route high above Camp 2. We loaded up the porters, left at 10:00 and with porters made it over the now familiar route to Camp 2 by 4:15 P.M. Jean took the porters all the way down. Fred and George reported that they had cleared out all the fixed ropes and steps and had put up fixed rope to the top of the gully. In addition, they had climbed a couple of hundred feet over easier going and had put up another fixed rope where the ridge once again assumed its alarmingly steep angle. Best of all, they announced that the summit, with this much of the route in readiness, could be climbed in one day. There was, however, no tent site within view, and we would probably have to bivouac. So August 4th was to be the great day.

We were awake by 4 A.M. and left about 6. The weather was cold, 3°, and threatening. Our progress up the cone was rapid, thanks to the cleaned out steps and fixed ropes. Before 9, however, the weather had definitely soured, and once again we were forced to turn back. It was snowing by 3:00 P.M.

We had tentatively decided to wait and see on August 5th, but by 7 A.M. the weather looked definitely encouraging. After some discussion, Fred and George left about 8, completely equipped, to cut some more steps. The weather continued to show promise, and Claude and Bernard were off by 8:40; Georgia and I, by 8:55. With this late start, there was no doubt about a bivouac.

Progress was rapid up the prepared part of the route. Clouds boiled up from the Amazon basin as usual, but above 19,000 feet we were higher than most of them. Cutting steps in the ice was continuous. Several difficult crevasses required caution, and in one of them I managed to collapse a snow bridge which the other five had successfully negotiated. While I screamed "Rope!" comments floated down in English, French, and Spanish. Fortunately I managed to keep my position with crampons on one side and ice axe on the other and got out with nothing worse than "jitters."

Fred and George continued chopping upwards, finally gaining the easier slopes leading to the Swiss summit where step cutting was no longer required. Fred prudently marked the route with pieces of cardboard which he had carefully hoarded. By 3 P.M. they were on the Swiss summit and discovered the broken staff of the flag pole which the Swiss had planted. To the north the narrow corniced ridge swept away, then dropped abruptly to a large gap. Beyond, still a good quarter of a mile away, soared the true summit. Fred and George inched delicately along the ridge under extremely exposed conditions. Hacking away a small part of the cornice, they planted a stake to which they attached 125 feet of fixed rope. They clambered down the rope which ended just at the lip of the crevasse that cut off the alarmingly steep slope. Fortunately, the crevasse was bridged at just one point, and it was possible to gain the gently rolling plateau that separated the two summits. They quickly crossed the plateau and worked their way up on to the final Gothic Tower which was the true summit. It was fantastic that such a huge mountain should have for its summit such a tiny ice spire. Just as Georgia and I reached the last fixed rope, we saw Fred go à

cheval onto the narrow summit. It was 4:30 P.M., August 5th—five weeks after we had left Limatambo. Putting up over 1600 feet of fixed rope and cutting 1291 steps in ice alone had finally brought their reward. Within the hour, all had gained the summit, just as the sun was setting through boiling clouds.

The temperature was dropping rapidly. The long tropic night had begun. We were lucky to find in the crevasse at the foot of the ridge a perfect bivouac spot. Well down inside the crevasse and completely protected from the wind was a narrow platform. We hastened to pitch our light Gerry tent, guying it with pitons and ice axes. Inside, the six of us huddled on air mattresses and spent a delightfully warm but sleepless night in a hopeless confusion of arms, legs, and bodies while Bernard made welcome hot drinks on his Meta stove.

With the dawn we were eager to get out. An icy wind, however, quickly changed our minds, and we spent 3½ more hours huddled in the tent. By 9:30 A.M. we had had enough. The temperature inside the crevasse was still only 12°, but we left and dazedly crawled up the fixed rope in the numbing cold. The descent required care, but by 3:00 P.M. we were back at Camp 2, where Jean, Mayaly, Abel, and the porters gave us a warm welcome, including wonderful oranges to eat. Most of Camp 2 was taken down, Georgia and I remained for the night, Fred and George staying at Camp 1, while the others staggered into base camp long after dark. The next day everything was taken down off the ice, and we all were welcomed at base camp by a delicious dinner of doves prepared by Mayaly—doves which Abel had shot on his last trip in to base camp. By August 15th we were all back in Cuzco.

Two days later we took the Faucett DC-4 for Lima. The pilot flew around Salcantay twice, and then, the most thrilling moment of all, flew just over and between the two summits. Our campsites, even our tracks leading to the summit, were all clearly seen. We flew on to Lima, marveling at what we had accomplished. Although we regretted that neither John Oberlin nor Jean Guillemin, who had both worked so hard on the expedition, could make the final climb, all of us were truly thankful that the first Franco-American expedition had safely put six climbers on the summit of mighty Salcantay.

Mount Everest, 1952

Norman G. Dyhrenfurth

All writing by members of the Swiss Everest expedition of 1952 is copyrighted by the Swiss Foundation for Alpine Research, Zurich. This article by our member appears entirely as a courtesy to the American Alpine Journal by the Swiss Foundation to whom we are deeply grateful and wish to express our warmest thanks. We are also indebted to Norman Dyhrenfurth for speeding the article to us after his return to this country despite much accumulated work of his own. Editor.

IN the spring of 1952, a Swiss expedition under the auspices of the Swiss Foundation for Alpine Research made its first bid for Mount Everest. Although the summit of Chomolungma (29,141 ft.) was not reached, the performance and achievements of the Swiss team were outstanding, far surpassing even the most optimistic expectations. In the course of this first serious attempt from the Nepalese side of the peak—the British reconnaissance party under Eric Shipton in 1951 were forced to turn back at about 20,000 feet—the Swiss succeeded in pushing through the enormously difficult and dangerous icefall of the upper Khumbu Glacier, which in the past had sealed off the mysterious Western Cwm. Mallory had been very much intrigued by it when he saw it from Lho-La in 1921. The huge crevasse, which traverses the glacier from the west ridge of Everest all the way across to the nearly vertical ice walls of Nuptse, was crossed by means of an elaborate rope bridge, made possible by the outstanding ice technique of Jean Asper. The Western Cwm, a big question mark for over thirty years, was thoroughly explored and traversed, and the 4,000-foot snow and ice wall leading to the South Col (25,846 ft.) conquered. Thus the strategically important jumping-off point for the final assault had been reached. After establishing Camp VI on the South Col, Camp VII (ca. 27,550 ft.), consisting of one tent only, was set up on a tiny rocky platform on the S.S.E.-ridge of Everest. On 28 May 1952, Raymond Lambert and Sirdar Tensing pushed on ahead to a

point not far below the South Summit at an estimated height of 28,250 feet, which is in all probability the greatest altitude* ever reached by man on this earth! By then, however, complete exhaustion, failure of oxygen equipment, and the threat of the approaching monsoon forced the Swiss team to retreat.

But actually the Swiss expedition was not ended in June, but merely interrupted for the duration of the summer monsoon, having been granted permission by the government of Nepal to resume its struggle after the monsoon. There had been many conflicting theories and opinions on the feasibility of an attempt during the fall and early winter months. The Swiss were determined to clear up the controversy once and for all, and to make their final bid for the remaining 900 feet, knowing that the British would try again in 1953, and the French possibly in 1954.

Although this was an entirely Swiss undertaking, I qualified for the team in view of my dual Swiss-American citizenship. I was asked at the very last moment to go along as mountaineer, still photographer, and cameraman-director of a documentary film. The request for my Nepalese visa was made at such a late date that I was held up for three weeks in Delhi, biting my nails and hoping for the best, while the others flew to Kathmandu and started the long trek toward Everest on September 10th, with some 275 coolies and 14 Sherpas. Eight more Sherpas joined the expedition at Namche Bazar.

Because of the heavy monsoon rains, the men ran into a great deal of trouble in crossing some of the large streams, and an abundance of leeches made their lives miserable. When crossing a 14,000-foot pass just before reaching the Dudh Khosi valley, two coolies died of exposure during a sudden and severe snow storm.

All this time I was still sitting in Delhi, drinking lots of cokes, lounging around the swimming pool of the Hotel Cecil, and playing tennis in the late afternoons, but nearly going crazy with the heat and the nervous strain of waiting.

Finally, on September 19th, I got word from the Nepalese Ambassador through the Swiss Legation in New Delhi that he had received authorization from Kathmandu to grant me a visa, but that I would have to start from Biratnagar on the Nepalese-Indian border, rather than fly to Kathmandu and start the approach march from there. I might add that it is largely due to the strenuous efforts

* Prior to the successful ascent of Everest, 29 June 1953.

of the Nepalese Ambassador to India that the second Swiss Mount Everest Expedition was made possible at all!

Not until September 24th could I leave Delhi by plane for Patna. There I was joined by SherpaAng Dawa, who had waited for me in Kathmandu all this time and had brought 15 coolie loads of food and equipment with him on the plane. [*Patna to Jogbani by rail: Limitations of space force deletion of the interesting account of the journey from Jogbani on the Indian-Nepalese border to Namche Bazar. This strenuous journey in the damp heat, at a diagonal to the main valleys and ridges, covered much the same route as the Houston party in 1950. It involved river crossings, including the Arun, three passes of about 10,000 feet, down again to 1500 feet, and up to 12,000 feet. Finally on October 14th at Namche Bazar, the narrative continues. Editor.*] We paid off the Dingla men and left the next morning with thirteen coolies from Namche Bazar: ". . . We leave at 7.30 A.M. Wanting to be alone for a while, I walk at my normal speed. Soon I am way ahead of the heavily-laden coolies, enjoying myself thoroughly. First slightly uphill, along high slopes, then down and across the Dudh Khosi, and uphill steeply toward Thangboche. The mountains all around are incredibly high and beautiful, although the light is pretty flat. At 11.45 I arrive at Thangboche, about 13,000 feet high, a most beautifully situated lamasery. Surrounded by mountains, including the world's highest, it sits on a small plateau, high above the valley leading toward Namche Bazar and points south. It is very cloudy and the ceiling is at about 24,000 feet. The upper reaches of Nuptse, Lhotse and Everest are hidden from view. Soon some of the Lamas come out, watch me take pictures, and invite me to lunch. One Lama brings me the list of names of the first and second Swiss Everest expeditions, and asks me to add my name to those of the other six members. Am I pleased to have at last come this far! After quite some time Ang Dawa and some of the coolies arrive, and each is blessed by one of the Lamas, while I sit on the steps of a large Chorten, both Leicas in readiness for the clouds to lift. Later one of the Lamas invites Ang Dawa and me to tea, an experience I will never forget. He shows me pictures of the Dalai Lama, the high Lamas at Rongbuk and Thangboche lamaseries, and one of himself, taken by Elizabeth Cowles during the Houston's reconnaissance trip in 1950.—We leave at 2.00 p.m. for a short walk to Melingmo, where

we stop to spend the night at a farm house. Again I have a chance to observe a Nepalese family and their guests in their home, an experience I wouldn't want to miss for anything. That is one of the advantages of being the only white man travelling with a small number of coolies. . . ."

The next day, five minutes out of Melingmo, I came around a bend in the trail and stopped dead in my tracks: Mount Everest was ahead, looming incredibly high above the Nuptse-Lhotse ridge! I can't describe my feelings, but seeing the highest mountain of our planet suddenly before one's eyes has a tremendous impact, particularly on a mountaineer. After I caught my breath and took some pictures, I continued along the winding trail with a new determination. Then on through Pangboche—the most beautiful spot I have ever seen—Pheriche, Phalong Karpo, and Lobuje (15,744 ft.), where we camped the night of October 17th. The next morning ". . . the ground is covered with heavy frost. We leave Lobuje at 7.00 a.m. The coolies are in excellent form, and we move at a good pace. Mostly over a moraine, at times to the left of it. I begin to feel the altitude, but manage to take a number of pictures. We arrive at the campsite of the old base camp shortly before noon, and decide to rest and eat something. Then on we go up and down over the lateral moraine of the Khumbu Glacier; then right through the middle of it, crossing many glacier streams, small seracs, etc. Reach Camp I (17,220 ft.) shortly before 2.00 p.m. I am rather exhausted and mighty glad when my friends Arthur Spöhel and Ernst Reiss come running down the last slope to welcome me and take the ruck-sack off my shoulders. Much excitement over seeing each other after such a long and eventful time. I thought our trip not exactly easy, but they really had troubles because of the final days of the monsoon!

"Lunch in luxury; then we look after my equipment, tent, etc. Arthur and Ernst are real friends, the way they look after me. Later in the afternoon Gabriel Chevalley and Tensing return from a trip to Camp III. Gabriel and I embrace each other; we are both very much moved. More talk, and general get-together.

"The sun goes down, and the cold sets in. I feel the altitude quite strongly, but my friends assure me that they had the same trouble during the first few days, as a matter of fact they still have some difficulty in breathing at the slightest physical exertion. Dinner around six in an open-air mess tent. Two sides are open, which is

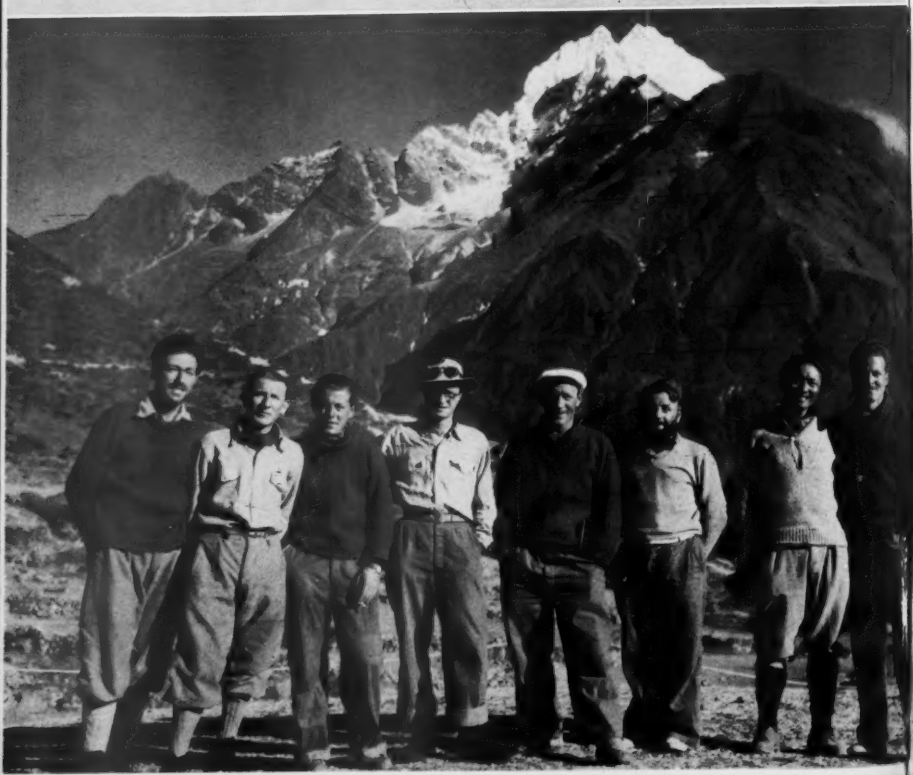
EVEREST, SOUTH COL, LHOTSÉ, NUPSÉ

Camp I on moraine, lower foreground; Camp II half way up icefall; Camp III at top of icefall; Camps IV-VII above shadow on upper Khumbu Glacier and slopes of Lhotsé (center); Camp VIII at South Col

Courtesy of Swiss Foundation for Alpine Research, Zurich

(Taken from S. E. spur of Pumori at 20,000 feet)

Photo, N. G. Dyhrenfurth



nice in the daytime when the sun shines, but somewhat chilly at night. I am amazed at the luxurious service, as well as the meal, compared to our frugal days between Biratnagar and Camp I. After dinner we go down to the kitchen tent to sit around the fire and chat with Tensing, Ang Tsering (who went to Kangchenjunga with my father in 1930), and other Sherpas. Then to sleep. That is easily said, but not done, when spending one's first night at 17,220 feet! I at least have quite a time with headaches, coughing spells, insomnia, and periods of gasping for air. All in all, the night seems very long indeed! . . ."

The next few days were spent in getting acclimated, moving the necessary quantities of equipment and food up through the icefall toward Camps II through V, and trying to catch up with the main body of the climbing party. In addition, I worked like a madman with six different cameras, trying to make up for lost time. On October 24th, Ang Dawa and I moved up to Camp II (18,532 ft.), situated among huge crevasses and seracs, but quite safe from avalanches. On October 27th we joined Arthur Spöhel at Camp III (about 20,000 ft.), after having had quite a time with fallen seracs, collapsed snow bridges, and shaky wooden beams across numerous huge crevasses. Since I was the only photographer of the expedition, I had to spend extra time at each camp on picture work. At last, on October 29th, we were ready to join the others at Camp IV (about 21,500 ft.): ". . . A good night, comparatively. Five Sherpas are to move up to Camp IV to stay, three men will return to Camp III. We get started around 10.30 a.m. Ang Dawa and I move at the tail end. After about half an hour's crossing of the glacier toward Nuptse, Everest comes in plain sight, dwarfing everything around it, even Lhotse. What a mountain! I take some pictures of the Sherpas moving toward Everest. How small they look! I feel better today, although my pace is still quite slow. For the first hour and a half I manage to keep up with the Sherpas, but the last hour gets a little painful on the breathing. We reach Camp IV around 1.00 p.m., where Raymond Lambert and Gustave Gross meet me part way with the greatest cordiality and joy. It's been such a long time (September 6, in Delhi), and my arrival so uncertain that I, too, am very much moved by the reunion. Soon Gabriel, Arthur, Ernst and Tensing exit from their tents to greet me. It really feels like Christmas! Only Jean Buzio is missing to make the day complete, but he

Top: AT ABOUT 22,000 FEET
Bottom: MEMBERS OF SWISS EXPEDITION II
Left to right: Reiss, Buzio, Gross, Chevalley, Lambert, Spöhel, Tensing, Dyhrenfurth
Courtesy of Swiss Foundation for Alpine Research, Zurich
Photo, N. G. Dyhrenfurth

and five Sherpas are very busy laying fixed ropes and chopping steps in the lower part of the 50-degree ice wall leading to the South Col. I have been watching the six tiny black dots in that huge face during most of the ascent from Camp III. . . ."

The struggle for the South Col had begun in earnest. Before the monsoon the Swiss had found the slope below it very long and steep, but apparently free from objective dangers. One major problem had been its great height—close to 4,000 feet from the "Bergschrund" to the top of the "Eperon des Genevois," a rocky rib reaching as far down as the famous yellow band—and the impossibility of finding a suitable site for an intermediary camp. But the snow conditions were such as to permit the men to climb with crampons, without having to cut many steps. This time, because of the colder weather, shorter days, and increasingly heavy winds, most of the snow had disappeared, making way for bluish-green ice.

On October 31st, Dr. Chevalley, Spöhel, and several Sherpas were to continue the work in the ice flank. Since the rest of us were watching their progress through binoculars from Camp IV, I am using parts of Dr. Chevalley's diary as an eye-witness account: ". . . Today it is Spöhel's and my turn. I am quite anxious to experiment with the Draeger oxygen equipment. Spöhel, with Dawa Thondup and Ang Tempa on the rope, is already high up in the ice flank, followed by two rope parties of three Sherpas each further down. I am on the same rope with Da Namgyal and Ang Nima, oxygen equipment on my back, and face mask in position, having almost reached the 'Bergschrund.' Suddenly a yell from behind: 'Sahib!'—and huge pieces of ice come hurtling down the slope. We throw ourselves forward. I am somewhat protected by the oxygen equipment and remain unhurt; Da Namgyal receives a piece of ice in his back. As soon as we can look up, we see the three rope parties above clinging to the slope, motionless. Mingma Dorje is hanging on the rope, held by his companions. I hurry to reach him, having to cut a thirty-foot traverse in the ice to get there. His face is bloody, his sun glasses smashed. He moans and hangs on the rope, unable to get on his feet. After some effort, and with the aid of a rope-pulley, I succeed in getting him on his feet and across to the fixed rope. Now we are able to transport him slowly and carefully down to the lower lip of the 'Bergschrund.' Just as we are all more or less bunched up below the 'Bergschrund,' the roped party

of Aila, Da Norbu and Mingma Sitar suddenly loses its footing, shoots down the bumpy, solidly frozen avalanche funnel, and comes to a halt 700 feet below on the far slope of a hollow! We had left Camp V at 9.00 a.m.; it is now 10 o'clock. The small ice avalanche, which caused the accident, came down from a great height through the couloir to the right. A huge ice block must have broken off from a serac on the northern edge of the Lhotse Glacier.

"The four injured men are placed on air mattresses and wrapped in blankets. Mingma Dorje has facial bruises and badly broken ribs; Mingma Sitar has a broken collar bone, injured ribs, and bruised thighs. Aila, who had been promoted from 'special coolie' to Sherpa, suffered serious facial injuries and dislocated ribs, while Da Norbu got away with minor bruises. . . ."

Later that day Mingma Dorje died of internal injuries, one broken rib had punctured his lung. My diary entries describe some of our feelings: ". . . Things look very grim indeed at this point. Mingma Dorje was the father of three children! Ang Dawa—who has not been able to sleep for the past four nights—has tears in his eyes, and so does Kirken, our cook. We all gather in the mess tent to talk things over. Tensing feeling terribly low, of course. Not only have we lost four of our best Sherpas, but what about the route to the South Col, which we all had considered long, strenuous, but safe? How are we going to persuade the remaining Sherpas to carry loads up this dangerous face? Tomorrow we will all get up early and go up to Camp V to discuss the situation with Gabriel and Arthur, to bring down the wounded men, and to bury Mingma Dorje. Ernst has made a small wooden cross—after I checked with Tensing as to its appropriateness—and we will bury him near here. A gloomy supper and after-supper get-together; we all feel awful about today's events and some of us begin to wonder whether this may be the end of our high hopes. If the Sherpas are demoralized and refuse to go on, we are licked. Everyone knows it, but we don't talk much about it. Raymond and Tensing retire early, the rest of us huddle together, finishing the cross and talking about mountain trips in the Alps. Around 8.00 p.m. we break up. The night is bitterly cold, and the mountains glitter in the bright moonlight. The icy places in the face below the South Col are plainly visible, but at night everything looks innocent and peaceful. I begin to have serious doubts as to the feasibility of our route, at least at this

time of the year. In Spring the slope was long and backbreaking, but contained hardly any ice. This time the dreaded ice-fall was somewhat easier, but the real difficulties are just beginning.—The moon is almost full, and the mountains look down on us in icy and dangerous silence. Looking back toward Pumori gives one the impression of having one's possible way of retreat cut off, we seem to be prisoners of the world's highest mountains!—Fast-moving clouds pass the summits of Everest and Lhotse; the spectacle is beautiful, but the intense cold drives me to my tent, and, despite a certain numbness, to my diary. . . ."

The following day we buried Mingma Dorje, on a lateral moraine, about halfway between Camp IV and V, at 22,000 feet. It was a deeply moving scene, in the shadow of the summit of the world—Chomolungma had claimed one of her sons.

The next days were spent reconnoitering a route to the right of the dangerous couloir, through the steep but comparatively safe Lhotse Glacier. On November 4th, Gustave Gross and Jean Buzio established Camp VI at about 23,000 feet: ". . . Jean and Gustave plan to reconnoiter up to Camp VII tomorrow. But the pitons do not hold in the snow and ice slopes of the steep Lhotse Glacier. Long wooden pegs will be necessary to secure the fixed ropes for the Sherpas. Later, after tea and supper in my tent, I step outside to observe the candle light in their tent. At one time I even see Jean and Gustave as they stand briefly in front of their tiny castle, until the bitter cold drives them back in. The wind rises and the night promises to be rough. I try to make some entries in my diary, but the combination of fatigue and the tent rattling and moaning under the ever-increasing efforts of the wind soon make me give up. I sleep from 6.00 p.m. until 9.00 p.m., but from then on sleep is a rare thing, due to the ravings of the storm. I wonder how Jean and Gustave are making out on their minute platform, in the middle of the huge glacial face of Lhotse. I don't envy them! . . ."

The next day the two men were unable to continue toward Camp VII. They came back to Camp V, totally demoralized from the intense cold and wind. Their tent was nearly blown away during the night, they couldn't keep their feet warm, and neither of them slept at all. The ever-shortening days, extreme cold, and almost unbearable winds began to have a very serious effect on everybody's

morale, which had already been severely shaken by the recent accident.

On November 6th, Lambert and Tensing moved up to Camp VI, Reiss and Spöhel joined me at Camp V, while the others were at Camp IV. The weather conditions deteriorated rapidly: ". . . November 7th: One of the worst nights I have ever spent in a tent. Around 1.00 a.m. I am suddenly awakened by a terrible feeling of suffocation. The tent is nearly collapsed, and one of its walls and roof sides, loaded with snow, rests on my chest and face. Immediately I extricate myself from the sleeping bag, get fully dressed (which is not easy in the tiny space of the tent remaining to me), and fight my way through the tent flaps into the raging storm. The first thing I notice are two Sherpas deserting their almost totally collapsed tent to seek refuge in the larger and sturdier 'Wico' tent. I fight my way over to ask them for a shovel, but it's no good. A brief inspection of Arthur's and Ernst's tent shows that they are in pretty fair shape. Finally, I find a piece of wood and start shoveling with all my strength to get the tent free before the weight of wind-packed snow crushes it completely. The storm is so violent that I have to seek protection frequently on the other side of the tent, which gives me a chance to breathe. At last the crushing wall of snow is removed, and I struggle to get back in the tent, which feels like paradise. My friends keep shouting through the storm to ask whether I am all right, and I assure them that everything is in the best of order. Some fun! Of course I am chilled to the bone—even the two sleeping bags fail to do their duty—but sheer exhaustion makes me sleep. . . ."

That day Lambert and Tensing established Camp VII at about 24,600 feet, while Reiss and Spöhel moved to Camp VI. On November 8th, Lambert and Tensing came down to Camp IV for a much-needed rest. Reiss and Spöhel went up the treacherous ice face to recover the pitons and fixed ropes we had left there since the accident, because we were running short of these important items. The night from November 11th to the 12th was the worst one yet. Chevalley and I shared a tent: ". . . I move in with Gabriel, around 2.30 p.m. We are glad to see each other, but he looks very tired from the previous stormy night, and I am just plain tired. From this moment on we are not leaving the tent until the next day—all our

'meals' are brought to us by a heroic Sherpa. The storm is of such strength that neither of us can sleep one minute. The noise of the rattling tent is like constant machine-gun fire. Even a free bivouac might be better than this! I can't remember *any* time in my life when I came closer to being driven mad. From time to time I turn on my flashlight. Looking at the beam of it as it touches the shaking tent walls seems to help us. Whenever I play the light over Gabriel's face, I see something close to madness in his eyes, like a hunted or dying animal. Added to this is the unpleasant fact that my head is lower than my feet, with the tent walls (in all their iciness) pressing down on my face, giving me a horrible feeling of claustrophobia. A thorough description of this night would read like something out of a psychoanalyst's notebook. . . ."

Even with conditions getting worse every day, the struggle for the South Col went on. On November 17th Lambert and Tensing reached the top of the Lhotse Glacier and placed fixed ropes across the couloir toward the yellow band, which joins the lower part of the "Eperon des Genevois." November 18th was a day of rest at Camp VII. On November 19th, Reiss, Lambert, Tensing, and seven Sherpas (Pemba Sundar, Ang Temba, Topkie, Ang Nima, Goumdin, Ang Namgyal, and Pemba) started off for the South Col. Raymond Lambert's diary gives a good account: ". . . Reiss and Tensing traverse the couloir and fix two hundred meters of rope, while I wait with the Sherpas on the uppermost terrace of the Lhotse Glacier. The weather is beautiful; we should be able to reach the South Col tonight, if everything goes well. Reiss and Tensing retrace their steps, and we reestablish the original rope teams. To save our strength, we three are using oxygen. We cross the couloir and continue on up through the steep bowl leading up to point 26,305 ft., which is slightly higher than the South Col. We climb at a fairly rapid rate, the snow is good, and the Sherpas follow closely behind. Higher up we pull ahead some distance, thanks to the oxygen. At 5.00 p.m. we reach the Col, where we select the same camp site as last Spring. The view is magnificent, but the wind and cold have increased tremendously. While we wait for the Sherpas and our tents, we try to free one of the tents which were left here in the Spring. The physical effort is almost too much at this altitude.

"At last the Sherpas arrive, and we throw ourselves upon the task of erecting tents. With great difficulty we succeed in setting up

five of them, but the wind keeps knocking them down, time after time. When finally two tents are ready for occupancy, the Sherpas pour into them; they are dead-tired, and cold. There is nothing we can do, they won't help us any longer. Reiss, Tensing, and I put up the other three tents, and each of us crawls in. The night has begun, and the wind blows ferociously over our camp at 25,846 ft.

"Thus the South Col has been reached for the second time this year, but at what a price! We have nothing to eat: it is almost too difficult to boil water. All we have is a cup of cacao. Tensing, the courageous one, brings it to us in our tent, where Reiss and I huddle together on one air mattress, each in his sleeping bag. And now a terrible night begins. Sleep is impossible, the wind shakes the tent, and the temperature sinks to forty degrees below; we are fighting hard to keep our feet and hands from freezing. We are fully aware that the wind's fury increases by the minute. Let's hope things will quiet down some after sunrise!—Time passes slowly. I have two candles lighted to warm our hands. We keep on talking, waiting for the new day to break. It is a terrible battle, and we need our last reserves for tomorrow, to establish Camp IX.

"Morning dawns, but the storm has lost none of its strength. Unfortunately the sun won't reach us until about 10.00 a.m., as it is still quite low behind the huge mass of Lhotse. Tensing joins us in our tent, and we confer. We could leave from here in an hour and a half, but Sherpa Goumdin is sick. We are waiting for tea, which is all we're going to have.

"At last we leave the tents, pack our rucksacks, and leave Camp VIII at 11.30 a.m. in the direction of the S.S.E.-ridge, to establish Camp IX. With a great deal of effort we cross the Col and begin to climb the glacier opposite the camp. We are moving very slowly. Our noses and fingertips lose all sensitivity. Despite our excellent equipment the wind penetrates everything. Even Tensing is seriously affected, and the Sherpas hardly move at all. At an altitude of about 26,680 ft. we are fought to a standstill. It is impossible to continue under these conditions, and at this altitude!

"We deposit most of our loads and descend toward the Col. The Sherpas insist on continuing on down to Camp VII. We are forced to retreat. If we do not help Goumdin, he will freeze to death in a very short time. Reiss, Tensing, and I distribute his load amongst us and tie him into our rope to keep him moving. The

other six Sherpas have already started the descent. With enormous effort we finally reach point 26,305 above the South Col. and start the long descent through the bowl. Fortunately the steps are in good condition and correctly spaced. The men are strongly affected by the altitude and are lacking their usual steadiness. One slip would be fatal for an entire rope team!

"At last we reach the couloir and shortly afterwards the Lhotse Glacier and Camp VII. We have used up our last ounce of strength and are utterly finished! . . ." End of quotation from Chevalley's diary.

This was the first and last try for the summit. Neither the Sherpas, nor any of us were in any condition to continue the struggle. Even if we had withdrawn to Camp IV or perhaps even to Camp I to recuperate, the winter monsoon storms were just around the corner, the days got even shorter, and the cold more intense. Besides, we were rapidly running out of food items for the highest camps. We had to admit defeat. To fight it any longer would have meant certain death for many of us. As it was, we had to consider ourselves extremely fortunate to have reached the South Col at this late date and to have effected an orderly retreat from the mountain and the Western Cwm without any further losses. The route between Camp III and Camp I was extremely dangerous: Most of the seracs were ready to cave in, with hundreds of small and large ice blocks along the way as ample proof! It was almost a miracle that nothing ever did happen to the Sherpas who had to go up and down frequently, changing the route almost daily.

On November 25th we were all back at Camp I, glad to be alive and in adequate health. The next day Spöhel, Gross, Ang Dawa, Ang Nima, and I made a reconnaissance climb as far up the South-East Spur of Pumori as we could safely go without getting into extremely difficult and dangerous ice climbing. There I made panoramas and telephotos with five different cameras from a point several hundred feet higher than the one reached by Eric Shipton's men in 1951 for the same purpose.

Some notes from my diary: ". . . At 2.30 p.m. we begin the descent. Everybody has gotten thoroughly chilled; my hands are numb as usual after a long work-out with cameras at this altitude and time of year. We practically run down the mountain to escape the wind, and thanks to Arthur's finding a better route home, we

arrive at Camp I at 4.00 p.m., just in time for tea! We are all pretty tired, but happy with what we have seen and accomplished. Gabriel is extremely relieved to know that we have finally succeeded in photographing the entire Western Cwm. Lots of coolies have arrived from Namche Bazar—tomorrow is the big day of our departure from here. It is very cold and windy—while having tea, the kitchen tent collapsed—and the poor coolies huddle together for warmth. Supper time finds all of us around Ang Tsering's fire, but the thick smoke soon drives me to my tent, where all cameras are waiting to be cleaned and loaded for tomorrow. Besides, the diary needs attention. The wind is dying down, the coolies are talking and singing, and the ice underneath the tents is cracking. Tomorrow is the big day! First stop Lobuje, where things will be green! After these weeks of nothing but snow and ice, this means a great deal to us, we began to feel like prisoners of Everest and Lhotse. . . ."

Though all of us were exhausted from the long struggle with the mountain and happy to be on our way home, a strong feeling of nostalgia entered our hearts and minds, increasing with every day's march we put between us and the mountain. On December 7th, shortly before reaching Junbesi, we had a last view of Everest, its huge plume of snow extending far to the South. Gabriel and I had walked together at the rear of the column and spent nearly two hours there, sitting below a Chorten, looking at the mountain with longing and wondering whether we would ever see it again. The great peak had been a terrible antagonist, but now we felt we were taking leave of a good friend.

On December 18th the expedition reached Kathmandu, after a wonderful return march through the hills and valleys of Eastern and Central Nepal. On New Year's day our Air India Constellation landed us safely in Geneva.

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King Peak

Elton Thayer

KING Peak, 17,130 feet, occupies a remote position in the St. Elias Range. It opposes the north slopes of Mount Logan across the intervening King Glacier and overlooks the Seward icefields stretching toward the Gulf of Alaska. Yakutat, 70 miles distant, is the nearest coastal village. McCarthy, 150 miles distant and a relic of copper boom days, is the nearest interior settlement.

Although King Peak itself had remained untried, its environs had been penetrated three times by expeditions to Mount Logan. As a consequence of these, interest in the possibilities of the peak developed. Our interest actually began with the 1950 University of Alaska Mt. Logan Expedition. Not until the spring of 1952, however, did conditions favor a realization of that interest.

Expedition personnel consisted of Alston Paige (previously on Mount Logan), Bill Atwood, Keith Hart, and the writer, all students at the University of Alaska and affiliated with the Alaska Alpine Club.

The planning phases were patterned essentially on the experiences of the Logan expeditions. Our interior route of approach would begin at Chitina, the nearest Alaskan village with a connected road. From Chitina we would be flown 100 miles southeast to an improvised airstrip at the terminus of the Chitina Glacier. With two weeks' rations and limited equipment, we would then travel by foot up the Chitina Glacier on to the Logan Glacier and the tributary Ogilvie Glacier to its confluence with the King Glacier (Quartz Ridge), a total distance of 50 miles. Following an air drop, we would then trace the course of the King Glacier 10 miles to the base of King Peak, in a series of relays. From this point, an assault would be launched on the peak. A minimum of four weeks was anticipated for the entire operation. By mid-May, the expedition was ready to set out.

Personnel and limited supplies were flown into the Chitina Glacier terminus strip on May 18th. This makeshift strip, though usable, is somewhat treacherous. Actually it is a selected portion of

a stream outwash deposit and, as such, is subject to erosion and alteration. Herb Haley, pilot for Cordova Air Service, performed the flying with a tandem-gear equipped Piper Pacer. The journey for the peak began that afternoon.

A week's traveling enabled us to reach the predesignated air-drop site, the base of Quartz Ridge (7800 ft.) on the upper Ogilvie Glacier. Although an air-drop site on the King Glacier would have shortened our relays, the fact that clouds habitually hang in the King Glacier Trough, when the Ogilvie Glacier is concurrently clear, dispelled the idea. Our trip to this point had been fairly rapid. The first two days we utilized in bypassing the moraine litter zone of the lower Chitina and Logan glaciers. The third day we encountered active, unlittered ice ridges on the Logan Glacier. These afforded excellent travelling. We found heavy snow on the Ogilvie Glacier but negotiated it with snowshoes. The weather, however, had not been particularly cooperative. Overcast conditions and limited visibility prevailed. During the first three days on the Ogilvie Glacier, we were frequently beset by snowstorms. May 25th, however, was ideal, the first of only four such days during the month's operation. The 26th was the prearranged air-drop date. We settled down to await it.

The 26th came and went. The morning of the 27th was not very reassuring either. The sky was cloudy and snow flurries enveloped our camp intermittently. But at about 2.00 P.M. the upper Ogilvie cleared, and the sun shone through. At 3.00 P.M. we heard the distant drone of an aircraft engine. Joy and jubilation ran rampant in the camp. An hour after the drop, a canopy of clouds had again obscured the sun. We relayed one load of supplies to the top of Quartz Ridge and returned to camp.

The King Glacier Trough proved to be as stormy as its appearance. On May 28th, we were still stormbound at the base of Quartz Ridge. The next day was something of an improvement; we were able to advance camp to the top of Quartz Ridge (9000 ft.), detouring to the east and above the icefalls tumbling down from King Glacier on to the Ogilvie Glacier. That night it stormed again. Intermittent snow flurries hampered the next day's relaying, but we succeeded in progressing on up the trough somewhat past the King Glacier Nunatak. Here we established base camp. On the following day we relayed the rest of the supplies up to base camp. Deep snow

above Quartz Ridge made snowshoeing difficult. Once we were abreast of the nunatak, King Peak burst into view. We all felt humbled. June 1st was a stormbound day again.

The route to the summit was still unselected. From base camp, we carefully scrutinized the west ridge extension. Although a possibility, this ridge route was long and would necessitate climbing an intervening high subsidiary peak (ca. 15,500 ft.) of King Peak proper. We decided against it, nurturing the hope that a feasible route could be located near King Col, the head of the King Glacier. From King Col we believed it possible to ascend King Peak via either the east ridge (a route later used by the Seattle Mountaineers) or the north face.

Accordingly we planned to advance to King Col. On June 2nd, we cached an outgoing food supply at the base camp site and continued up the trough. That afternoon we reached the icefalls of the upper King Glacier where we were compelled to remove snowshoes and attach crampons to surmount the ice blocks. The wind rose steadily, and by the time we had gained the lower crest of the icefalls, it had become a veritable tempest. We pitched the tents with difficulty on a flattened ice block. Camp I had become a reality (ca. 13,000 ft.).

From this vantage point, we could see what appeared to be a feasible route up the north face of the peak. This proposed route extended from Camp I directly up the steep, crusted snow slope underlying the great north face of sheer rock, thence west via a narrow snow shelf to a high saddle (ca. 15,000 ft.) between King Peak proper and the earlier mentioned subsidiary peak on the west ridge, and finally to the summit by way of the upper west ridge. We planned to place Camp II, our final camp, in the high saddle. The most disturbing factor was the masses of ice which partially overhung the shelf, the portion of our route involving a traverse. The most appealing factor was the directness of the route, a consideration forcibly brought to mind by the time limit and the prevailing weather conditions. We decided to attempt the route on the first ideal day.

The weather relented. June 2nd dawned clear and instilled us with hope. Storing another small cache at Camp I, we left for the high saddle. Skirting a little to the east of some gigantic ice slabs and a trail of avalanche debris from the ice masses above the traverse,

we began climbing the slope. The gradient was extremely steep, but the hard crust provided excellent purchase for the crampons. Shortly after mid-day, we reached the rock face and began the traverse.

In vain we searched the traverse route ahead for the shelf. This feature, which had appeared so prominent from Camp I, was practicably non-existent at this point. The slope, tilting down precipitously, still offered good crampon purchase but was extremely tiring on ankles turned out at an awkward angle for prolonged periods. Several gullies were encountered which were devoid of snow but contained a thin veneer of ice over rocks. These gullies and occasional patches of ice required us to cut steps frequently, in that way losing considerable time. For perhaps three hours, the traverse continued in this fashion. We finally passed under the overhanging ice without incident and emerged on the long-awaited shelf. Though sloping outward at a fairly steep angle, it was filled with deep, uncompacted snow. Its upper limit was demarked by a bergschrund and a continuous lip of ice. Conscious of a different but renewed avalanche danger, we moved with caution along the upper margin of the shelf. Walking was fatiguing as we often sank into the snow to our thighs. At last the shelf merged with the west ridge and the saddle lay before us. A small, flattened area at the saddle offered a satisfactory campsite. This we took advantage of to set up Camp II. The enveloping blueness of the arctic twilight had settled over the panorama of the St. Elias wilderness. The Seward Icefields lay vast and silent. Mount St. Elias and its satellites loomed up to the south. To the west and north, Bona, Steele, and Lucania formed an impressive skyline. The great bulk of Mount Logan rose directly across the King Glacier. Slowly, the sombre-gray twilight obscured the scene, marking the end of a memorable day.

During the ensuing two days, snowstorms pelted our small tents perched on the ridge at Camp II. In the lulls in the weather we made short reconnaissances up the west ridge. It appeared feasible.

The dawn of June 6th ushered in the climactic day. Not a cloud speck was to be seen anywhere. Paige, Hart, and I readied light packs for the final effort. Atwood had been having trouble with his knee and felt that he would only hold the party back on a summit attempt. Finally it had been agreed that he would remain at Camp II and await our return. For some distance above camp,

the ridge was fairly wide, covered with a moderate layer of light snow. The first interesting feature was a sudden narrowing of the ridge to an edge of ice. A few cut steps enabled us to cross fairly easily, however. We then climbed down a short distance into a narrow rock notch in the ridge. A rock tower rose above the ridge on the opposite side of the notch. These features were lightly draped with snow. A considerable time and several belays later brought us across the notch and above the tower, the first of several along the ridge which always demanded careful and time-consuming handling. Some we were able to traverse around by the north side on the snow slope. Others would require that we go directly over them. This was always interesting as the light snow mantle over the rocks was insufficient for crampons yet enough to discourage conventional rock technique. Frequently frost-loosened slabs would peel off so that holds had to be selected with the greatest caution.

Above the first tower, we encountered crusted snow. The ridge proper at this point was corniced but broken, so that a sharp edge resulted. We consequently traversed along the north side immediately below the ridge crest. This type of terrain extended upward in the form of three gigantic steps. A small depression appeared at the top of the last step. Here we tarried briefly for lunch. Another rock tower rose immediately above the depression. This we ascended via a narrow chute of snow. The greater part of the ridge from here to near the summit was a series of rock towers and intermittent crusted snow crest.

Finally, after reaching the base of what appeared to be the last snow ridge to the summit, we discovered that it wasn't. Beyond this pseudo-summit, an indescribable 150-yard knife-edged snow ridge extended out and merged with another rock tower. The true summit lay somewhere above and beyond. We advanced along the knife-edge a step at a time. Although the snow was merely compacted snow, each step had to be laboriously stamped out or cut with the axe. Feeling somewhat like tightrope walkers, we gazed down at King Col on one side and the Seward Icefields on the other. Both seemed very remote and distant. At last we were safely across. The tower beyond was the most formidable we had had to tackle. After several futile attempts to find holds, Paige, who was then in the lead, finally located one above his head and pulled himself diagonally up and into a small chute. Soon afterward, the tower

yielded. A short snow ridge now led gently to the summit, where we paused only for a brief time. The wind had risen perceptibly, the cold was intense, and we felt exhausted. At the moment, exultation was superfluous.

The descent was replete with incident. By the time we had reached high camp, the wind had gained maximum velocity. Cloud scud collected rapidly. That night, the next day, and the following night, wind-driven snow buffeted the camp almost continuously. The following day, the storm abated somewhat. The time seemed opportune to conclude the descent. We had just crossed the most threatening avalanche portion of the traverse when a hissing reached our ears. A moment later, broken ice fragments and powder slithered across our back trail and plunged on down toward the King Glacier. Shortly after, Atwood suffered a bad fall in an ice gully. The belay point held, but he was dazed and bruised. When he had finally collected his senses, we continued the descent. It was then that one of my crampons broke. Perhaps the "King" was retaliating for our imposition on his dignity. With mixed feelings of relief and belated joy, we fell easily to sleep at Camp I that night.

The trip out went quickly. With reduced loads and an easier gradient, we reached the air strip six days later, one month after our departure. Another season of mountaineering had come to an end, leaving us much for reminiscence.

King Peak–Yukon Expedition, 1952

Peter K. Schoening

THE primary purpose of organizing a group of climbers to visit the St. Elias Range in the summer of 1952, other than an interest in seeing new and different country, was a desire to search out climbing problems. Unclimbed peaks and routes are of course the best potential climbing problems, and summits like King Peak, Mount Augusta, Mount Cook, and Mount McArthur were immediately given consideration. In addition, an easterly approach to Mount Logan was considered a possibility. Although photographs and information describing the precipitous 17,000-foot King Peak led us to believe this fine summit beyond our capabilities, it was selected as the main objective. Secondary objectives were then investigated and selected according to their individual degree of lessening difficulty. King Peak was placed second to Mount Augusta, and Mount McArthur, another 14,000-foot mountain located to the east of Mount Logan, was placed third. With these possible objectives the proposed operation was christened the "King Peak-Yukon Expedition, 1952."

Members of the party were mainly from the Northwest, and included from Seattle: Vic Josendal, Dick McGowan, Bill Niendorff, Bob Yeasting, Dave Harrah, and the writer. All are members of the Seattle Mountaineers Inc. From Wenatchee, Washington, came red-headed Verl Rogers, who, prior to the trip, had been working in Juneau, Alaska. Our eastern enthusiasts were Gibson Reynolds (A.C.C.), of New York City, and Tom Morris, a graduate student of physics at Yale University.

Because of the remoteness of these mountains and the ruggedness of the surrounding territory, the problem of reaching the base of operations was of prime importance. Previous expeditions had used every means of advance, from walking to landing on the glaciers with ski-equipped airplanes. Not because we objected to walking but because we had a greater desire to utilize the available time for climbing, we chose to attempt ski landings on the surface of the glacier. The party could then be placed closer to the desired

objective and make successive attempts on the peak with available air support close at hand. Pilot Fred Melberg of Seattle, listening with enthusiasm to our intriguing logistical plan, offered to take on the job. To handle the operation he elected to use a three-place Piper Super Cruiser adapted with a ski-wheel arrangement which he hoped could successfully make the landings. The skis, made of laminated hickory by Wally Burr of Seattle, were attached by brackets to extend wheel axles in such a position that the wheels protruded about three inches through a hole cut in the middle of the ski. In this way the plane could effect landings either on the snow or on the bare ground. The skis, turned up at the tips, were 72 inches long, 16 inches wide, and weighed 81 pounds.

Through the foresight of Tony Thomas of Juneau and the cooperation of the J.I.R.P. personnel, field testing of this device was done on the Juneau Ice Cap. A practice landing near Camp 10 was only partially successful, for only under optimum conditions was Fred able to get the small craft off the glacier. Although landings could be made without difficulty, the drag developed by the small portion of wheel below the level of the ski was too great to enable sufficient take-off speed. Had the plane been more powerful, or the wheels retractable, the operation would have been feasible.

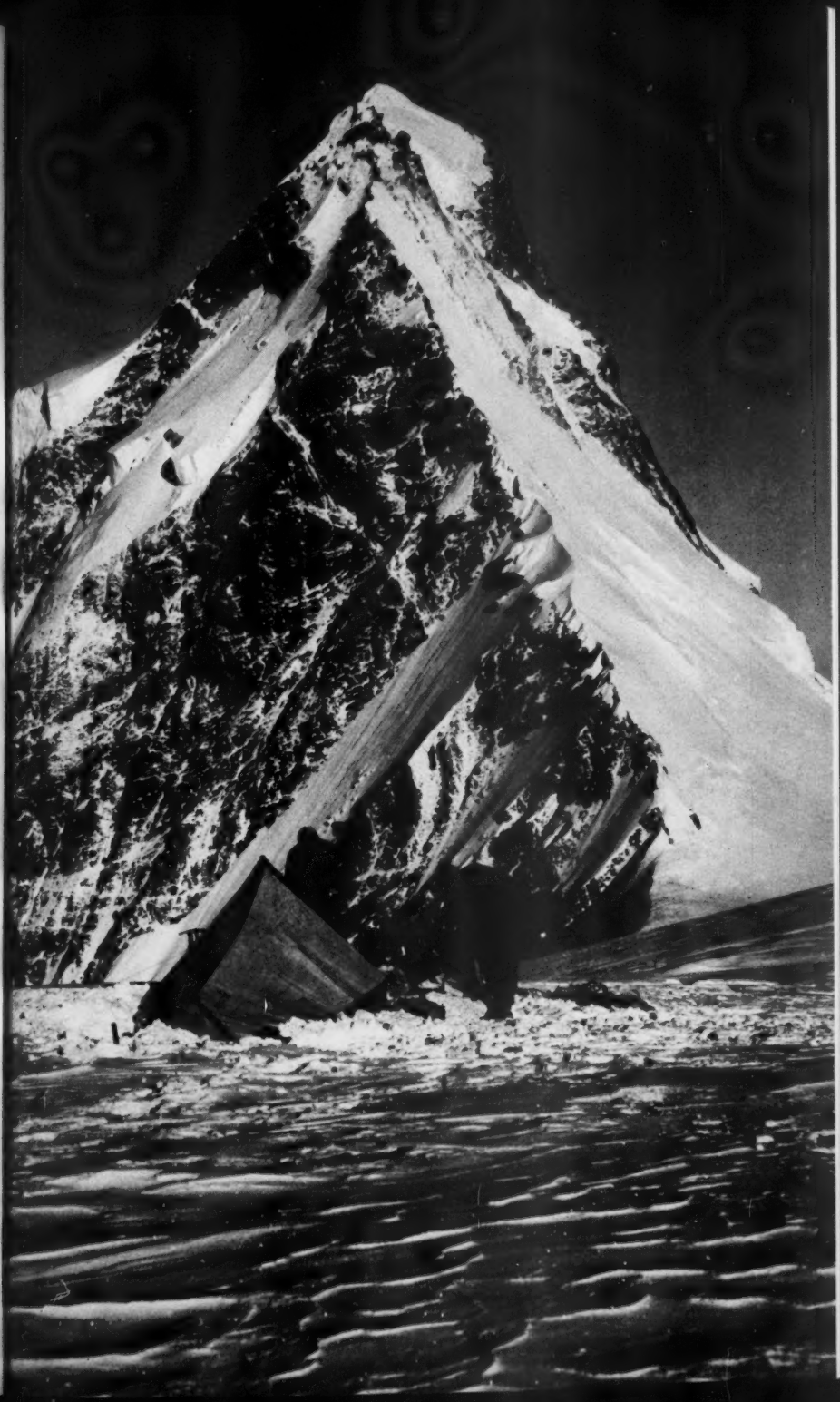
This last-minute development, of course, left the expedition in urgent need of some other means of reaching its objective. If transportation by plane were not to be possible, we were left with the only other alternative—to walk in. A few days prior to the time the expedition was scheduled to set out, we made a few reconnaissance flights in the hope of discovering new routes or of verifying old routes used by previous expeditions. The route offering the closest approach to King Peak required landing by plane on the Chitina River rock flats at the snout of the Chitina Glacier and then walking the 50 odd miles to the upper base of King Peak. This was the same approach used by the party which made the first ascent of Mount Logan in 1925. The approach was viewed with skepticism because of the extremely broken appearance of the lower Logan Glacier and the need for a special heavy-duty landing gear to make the rough landing on the rock flats. Another route would require hiking in from the head of Disenchantment Bay (upper Yakutat Bay), but the landing facilities were not the best in this area. Still another approach would have been via Icy Bay and up the Gayot

Glacier and around to the Columbus and Seward glaciers by passing just to the west of Mount Huxley and Mount St. Elias. However, the broken structure of the Gayot Glacier dampened any hopes. The one approach that did stand out as both feasible and practical, the route later used, began on the beach at the snout of the Malaspina Glacier and extended across this glacier, up the Seward Glacier trough, and on to the upper Seward Glacier ice fields. Here a base camp could be established with both Mount Augusta and Mount Cook close at hand, and the main objective, King Peak, and another alternative objective, Mount McArthur, within two or three days' travel. From Yakutat, Alaska, our base of operations chosen several months before, any of these routes could be used—providing there was airplane support.

None of us welcomed the idea of engaging in a long journey afoot in order to get close to the objectives. So when a local pilot at Yakutat, Mr. C. E. Kirk, offered to land on the glacier with his Grumman Duck, we leaped at the suggestion, and less than three hours after the arrival of the complete party on June 19th, Kirk had loaded his plane with over 1200 pounds and was ready for the take-off. This capacity load included Rogers, Morris, Harrah, and myself, in addition to food and equipment, with some of us stuffed into the pontoon. The novel operation resulted in a successful landing and unloading of the plane on the Seward Glacier, midway between the summits of Augusta and Logan. Unfortunately, when a return take-off was attempted, the drag of the pontoons on the snow prevented sufficient speed from developing even with the over 1000 HP engine. After the sickening trial run down the glacier, Kirk calmly climbed out of the big plane, quietly remarking that he would probably have to wait for a little wind to help in the take-off. Five days later, after a slight wind had arisen in the night, Kirk emerged from the base camp tent and climbed into his machine, accompanied by Harrah, who had had indications that his feet might give him trouble. The take-off was accomplished amid swirling clouds for the uncertain "socked in" flight back to Yakutat. Kirk's apparently casual attitude is typical of that of many an Alaskan flier.

At the time the "Duck" landed on the glacier, the expedition was in an embarrassing situation; half the party was at Yakutat and the other half comfortably situated on the Seward Glacier. Our earlier reconnaissance work now proved invaluable. On June 20th, Josendal,

KING PEAK (ca. 15,500 FT.) FROM END OF EAST SHOULDER
Route was directly up the ridge with traverses to the right or north side when necessary to avoid cornices and the major portions of the rock
Photo, P. K. Schoening



Yeasting, Niendorff, McGowan, and Reynolds were shuttled across Yakutat Bay and landed on the beach at the edge of the Malaspina Glacier, near the site of a wrecked Japanese schooner washed up on the shore in 1907. Of the approximately 60 miles to base camp, 25 were covered in crossing the Malaspina Glacier to Seward Rock, the junction where the Seward flows into the Malaspina. This required a one-mile tramp through morainal brush, followed by a few miles of rocky surface moraine. The last 15 miles on the Malaspina were mostly smooth glacier traveling where sleds could be used to advantage. After Seward Rock, the route was along the east or right side of the Seward trough for 20 miles, where it was found possible to cross the glacier and climb the upper Seward trough icefall on the west, or left, side. Once above this icefall, the travel was again easy for the remaining five or six miles to base camp. This route required five days' traveling time.

Once at base camp, the party assembled for the assault on beautiful, 14,000-foot Mount Augusta, located about eight miles to the southwest. Photographs, correspondence with persons familiar with the area and the type of climbing, and our own observations all concluded that the two practical routes would be either the north ridge or the west ridges. Because of its closer proximity to base camp and the fact that it actually looked the easier of the two routes, the north ridge was selected as the first choice. This ridge extends down from the summit as a long shoulder to approximately 11,500 feet, where it drops off sharply to the glaciers which are about 7000 feet in elevation. A spur ridge extending northwest intersects this abrupt drop at about 10,000 feet, leaving nearly 1500 feet of steep ice to negotiate in order to reach the upper shoulder.

For the attempt, our group was broken into two parties. One was the advance or climbing party, and the other, the supply and support party. On June 24th, the four members of the advance party left base camp very early in the morning to take advantage of the hard snow crust for easy walking and sledging. The advance group included Josendal, Yeasting, Rogers, and Reynolds.

By the end of the third day this group had established high camp at 11,500 feet, at the end of the prominent shoulder along the north ridge. As anticipated, the portion of the mountain just below the tip of the nose presented reasonably difficult climbing which required the use of 12 pitons, most of them ice pitons. Since these

Top: MOUNT AUGUSTA FROM BASE CAMP (6000 FT.)
Base of North ridge behind tent

Photo, P. K. Schoening

Bottom: PAIGE AND THAYER LOOKING AT KING PEAK BEYOND SUBSIDIARY PEAK FROM BASE CAMP ON KING GLACIER

Photo, E. Thayer

slopes were largely hard-packed (water) ice but covered with a few inches of rather loose snow, an attempt was made to keep as much as possible to the rock outcrops to lessen possible danger of avalanching.

As could be expected after the five days of good weather just passed, the clouds began to roll in from the south. Even though the supply group had reached high camp and the advance group was making the final attempt on the summit, it was evident that a retreat would be necessary. With a strong eight-man party, it was decided that only the supply group should descend to lower camps and, in addition to relaying up additional supplies, they could act as support for the advance group. At this time the advance group had a slender three and a half days' food supply. The subsequent storm, which lasted three days, illustrates the importance of either an immediately available support party or well supplied camps. Though this storm seemed quite mild, had it continued another day the advance group would have had to descend, if that had been possible, and resupply before making the summit attempt. Realizing that the advance food supply would probably be about depleted, on the morning of the third day, McGowan and I left the camp at 9400 feet only intending to relay food to the upper group. However, as the morning advanced, the weather became progressively better and, before long, the remaining two members of our group were beginning the airy ascent to high camp. By mid-morning we had reached the high camp and were able to watch the advance group who, taking advantage of the weather, were now working on the ridge above. After a short nap, we, too, began the tedious climb to the summit, exchanging greetings with the jubilant advance group at 13,000 feet on their way down. The summit was reached on the Fourth of July. During the descent a Brocken was seen and a peculiar sun spot which appeared to focus in a thin cloud formation.

Unfortunately, after only one week of climbing, the members of the expedition who had to return to their jobs or other responsibilities turned backward for the long journey down to the Yakutat beach and home. These members included Rogers, Josendal, Yeasting, and Morris. Their departure left McGowan, Reynolds, Niendorff, and myself to tangle with our main objective, 17,000-foot King Peak.

Although the original plan included landing on the west side of

King, on the Quintino Sella Glacier, the most obvious and seemingly easiest approach to the upper slopes of King, we were now located southeast of the peak. To continue the planned approach would necessitate some 50 to 60 miles of glacier travel—a depressing thought. The possibility of using the southern approach had been considered before plans had been laid for trying this seemingly more intriguing route.

Our first project was to get the supplies close in to the southern base of the peak. After a reconnaissance trip, during which McGowan and I spotted a desirable place with a bright yellow tarp, we contacted Fred Melberg by radio and, within a matter of hours, 70 man days of food, in addition to extra rope and gasoline, had been dropped. Without delay and on the morning of July 11th, we packed the sled and made the 15-mile trip to the air-drop site and still another mile to the base of a small rock nunatak which served as the King Peak base camp. The elevation there was approximately 6500 feet.

Although this camp was christened Nunatak Camp, it actually was located on the rocky surface moraine some 50 yards south of the actual nunatak. The location was verified by the continuous movement of the rocks, especially those neatly stacked to make up our boudoir. The movement sometimes became annoying during the night when we were asleep.

The nunatak temporarily split two of the small glaciers that pour from the south face of Mount Logan, the most westerly one of which begins just below the King-Logan Col. Farther to the west are two more glaciers, one fed from the tip of the long south ridge of King, the other originating at the base of the sheer 7000-foot southeast face of King. These small glaciers all join into one large one just below the nunatak and empty into the upper Seward Glacier ice field. We named this glacier system the Hall Glacier after Henry Hall.

Previous reconnaissance had indicated that the most feasible route was up the small tributary glacier formed in the cirque at the base of the southeast wall of King Peak. From its head at 9500 feet, we were somewhat skeptical but still reasonably confident of ascending the spur ridge that juts out just south of the tip of the east shoulder of King and eventually gaining this shoulder at an elevation of over 14,500 feet.

With 250 pounds of food and a mountain of equipment, we begin the long process of relaying supplies. Speed and timing were ever important factors and, depending upon the uncertainty of the weather, it was easy to visualize the possibility of being held up in our tents for one or more days. Consequently the party was divided into two teams of two climbers each, one group to reconnoiter and the other to bring up supplies. In case of bad weather, with the path ahead marked, the teams could still be active in supplying the route. This was good in theory but poor in practice, for after two days' packing, we unanimously agreed with the time-tested rule of three or more men on a rope for glacier travel and thereafter stayed together and roped together. Hidden crevasses, many of them impossible to predict, were very plentiful and, even with the support of the long 58 by 10 inch trapper snowshoes, were dangerous to negotiate.

Four days found us well established at the head of the glacier at 9500 feet and in another four days camps and supplies had been pushed to the end of the long east shoulder of King Peak, which is apparently about 13,000 feet. The route from the head of the glacier was up the spur ridge that extends south from the eastern tip of the King shoulder. From the high camp on the tip of this shoulder, the summit of our objective was an amazing spectacle. We vividly recollect this spot as being usually windy and quite cold, but most of all, just plain beautiful. Majestic King to the west, Mount Logan to the east, and the huge ice fields on either side were magnificently scenic, and even the unpleasantness of the weather and altitude could not lessen our appreciation.

Though only 2000 feet remained to the summit, some five days were required to get the entire party on top. The route was directly up the east ridge, but traverses were necessary on the steep snow along the north face to eliminate climbing the rock on the ridge. The prominent gendarme about 200 feet below the summit was circled on the right, or north, side.

The first two days were spent reaching points only about 300 and 400 feet below the summit where, in addition to the lateness of the day, cramps and cold feet took their toll and made return journeys to high camp mandatory. The cold feet were aggravated by inadequate boots and inactivity. Two of the members of the party used the new insulated rubber combat boots (developed

by the Quartermaster Corps, U.S. Army), which proved very successful for this colder type of climbing. The other two of us wore a modified felt boot which after the many days of travel on crampons had become torn and twisted out of shape. Needless to say, these felt boots produced trouble—but only after the climber was inactive. On King the climbing was slow and, while the lead climber was able to keep physically active, the remainder of the party was relatively inactive in belay positions. For the most part our clothing was sufficient, but the combination of torn and distorted felt boots and our physical inactivity understandably resulted in cold feet. Luckily, most of our feet were about the same size, so trading of boots on two occasions lessened the problem. Feet warming by the stomach method was also used.

The third day was spent in resting, after the party had arrived at the high camp during the early hours of the morning following the second attempt. Early again on the fourth day, Reynolds and I quickly retraced the route previously established and reached the windy but clear summit. The 600 or more feet of fixed rope and two rappel pickets made the ascents and descents safer and more rapid.

Returning to high camp, we found Niendorff and McGowan eager to attempt the ascent on the following day, July 24th. Although the day proved semi-stormy, they completed their climb by noon and the return to high camp was made by late afternoon.

The primary objectives of the expedition had been accomplished. The fact that two peaks, Mount Augusta and King Peak, had been climbed was indeed satisfying, but of more significance to me and—I believe to the other members of the group—was the achievement of the second and equally important goal. Everyone attempting the climbs had reached the summits. Aside from this, we found these mountains extremely fascinating. Generally speaking, the climbs were not technically severe, but as other climbers in this range have observed, such problems as weather, supplies, and the always changing snow and ice conditions, call for first-class mountaineering—mountaineering that will always beckon our return.

Harvard 1952 Brooks–Mather Expedition

THAYER SCUDDER

THE afternoon of 25 June 1952 four members of the Harvard Mountaineering Club sat at McKinley Park Station waiting for the freight from Fairbanks. It was a pleasant wait, our first real rest since a chaotic drive up the Alaskan Highway in our reconverted hearse. The hearse had been bought in the spring by nine of us and handed over to David Bernays, M. I. T. '53, to strip down to its "rollers." If Dave could so fix up our purchase that it would convey our four-man expedition and the Harvard McKinley Expedition safely to McKinley Park, it was to become his own. The gamble paid off, yet not without, on occasion, raising our fears. Even a 2½-ton hearse is well loaded with 3400 extra pounds of mountaineers, with their food and equipment!

The four-man Harvard Brooks-Mather Expedition was scientifically inclined. Bradford Washburn had authorized us to carry out a surveying program to enhance his uncontrolled map of the McKinley area. To help this program, Harvard University loaned the expedition an excellent Travistock theodolite, while the Boston Museum of Science had given us the use of Brad's whirling mirrors. We were to set up equipment, if possible, on the summit of Mount Brooks and also on McGonagall Mountain, to obtain horizontal and vertical angles between designated points around the compass. In addition to this survey program was the objective of making a complete botanical collection from the McGonagall Pass area for the Grey Herbarium at Harvard. These scientific interests, however, were not to result in our ignoring the mountains enclosing us, the lure that had originally drawn us to this area. We hoped to make first ascents not only of 11,990-foot Mount Brooks but also of 12,040-foot Mount Mather, and Peak "5," the latter a spectacular 12,400-foot spur of Mount Silverthrone.

As for expedition personnel, all were embryonic scientists. Winslow Briggs, just through his first year as graduate student in biology, was our botanist. John S. Humphreys, Harvard '54, was to assist with the surveying, while Dave Bernays, our hearse and expedition mechanic, was to get us to Alaska.

When, on the evening of June 25th, the hearse finally did arrive by flatcar from Fairbanks, we drove most of the equipment west that night the 87 miles to Wonder Lake (2100 ft.). Nearby, where the 18-mile "trail" to McGonagall Pass begins, we were to meet Carl Anderson, our packer, on the 27th. The weather was unsettled, clouds alternately breaking and reforming over the lesser summits, while a dense shroud enveloped McKinley and its satellites. I remember how on the evening of the 26th, when all gear had been properly duffled and inventoried for the horses, we had from time to time gazed off into the clouds of the Alaska Range—waiting for them to rise and vanish. How amazed we were when the top of McKinley finally emerged fully 5000 feet higher than we had expected!

The hike in, across the McKinley forks and then through some 14 miles of mosquito-infested tundra, went off without mishap. Carl Anderson unloaded our gear in the Cache Creek basin at about 4200 feet, roughly a mile below McGonagall Pass. He had done a fine job. By June 27th, Wonder Lake lay well behind us. It seemed many days before, that Humphreys and I had spent an extra day setting up the whirling mirrors on Geodetic Survey bench marks at Camp Eielson and Wonder Lake. These mirrors, a unique device powered by an anemometer, consist of a series of round mirrors adjusted at various angles off an horizontal plane. As the mirrors revolved, we hoped the flashes would be visible to us when we reached the summit of Mount Brooks. In case they were not, we had taken the added precaution of painting white – stealthily of course – the south side of a prominent boulder that borders the Park "highway."

We were now faced with the chore of moving most of our supplies from Carl Anderson's dump (our Camp I) over to the base of Mount Brooks. We knew of two alternate routes. Both, whether following Cache or Oastler Creeks, would enable us to penetrate those rocky mountains of a Scottish character that border the Muldrow Glacier on the north to an altitude of some 6000 feet and form a final barrier to this region of the Alaskan Range.

The first route required packing up to McGonagall Pass (5600 ft.) via the Cache Creek Canyon. From McGonagall it would be necessary to wallow out onto the Muldrow Glacier, descending and crossing it a total of five miles to the confluence of the Brooks

Glacier with the Muldrow. Here, at 5350 feet, we were to establish our main base camp (Camp II) under the shadow of the long northeast ridge of Mount Brooks. Later in the summer, when the firn line had retreated above McGonagall Pass, we found this route excellent, enabling us in three hours to pack heavy loads back and forth between McGonagall Pass and Camp II.

The alternate route required us to back-track about half a mile down Cache Creek to its confluence with Oastler Creek which drains from the southeast a wide and beautiful U-shaped valley. On ascending this, one comes to Oastler Pass which breaks through to the Muldrow some four miles down the glacier from McGonagall Pass and directly across from Mount Brooks. Perhaps this route is a trifle longer, yet the pack through the springy tundra is delightful, marred only slightly by two steep pitches at the valley's head. When these can be ascended at night in snow-filled gullies, the glissade down is well worth while, yet once the snow melts, one would be wiser to stay away.

Between June 29th and July 4th we packed 14 loads over to Camp II and established two caches—one at McGonagall Pass and one in the Cache Creek Basin. These consisted of botanizing equipment to be used at a later date. Although on two of these packing days it rained, when finally it did clear after supper on July 2nd, the jagged front that swept in from the north brought three days of beautiful weather. I remember these well, for out of 34 days in this area, we enjoyed only three others like them. Late that night we were off for Oastler Pass. The air was cool, a thin film of ice forming over backwaters that seeped into depressions away from the current of the tundra streams. Overhead the clouds were breaking up, glints of blue creasing the blue-grey overcast that hung together like fleece. Ahead and behind, gentle sloping tundra, covered with flowers, stretched for miles, concealing the many ptarmigan whose startled cries we often heard. Dryas and white heather were almost phosphorescent in the subdued light.

When we reached the pass it was sunrise. Across the Muldrow from east to west loomed the grey white shapes of Mather, Deception, Brooks, and McKinley. And as we watched, these snow-clad peaks turned pink until their ridges seemed afire. Nibbling

SCUDDER NEAR SUMMIT OF PEAK A (11,200 FT.) WITH PEAK 5 IN BACKGROUND

Photo, D. J. Bernays

some pemmican, we stood and watched until the first rays of the sun burst over the hills behind us to dispel the alpine glow.

On July 4th the final loads were relayed to Brooks Base Camp. Two mountain tents and a large Abercrombie Camp Tent were pitched. The site was ideal, the only flat stretch of moraine for miles. A small stream draining snow-filled gullies supplied fresh water, while a nearby snow patch served as an icebox. We were finally in a position to concentrate on our first objective; for if the weather held, the next day we could attempt Brooks.

July 5th the weather held good, although a strong wind kept us in camp until 8:00 A.M. The ascent, unlike that of Mount Mather later in the season, offered few problems. It remains a constant source of amazement to me that this beautiful peak, so prominent to all who reach McGonagall Pass, had remained unclimbed for so long. The one practical route, the long northeast ridge, could even be climbed in a day from McGonagall.

This northeast ridge ends in a huge shoulder some 2000 feet above Camp II. Early in July, we could kick steps up this initial portion with a minimum of scree scrambling and step cutting; later we found the winter snow mostly melted away below 7000 feet, leaving exposed ice and scree. On reaching the ridge, we climbed gently upward some 2000 feet until our route merged at right angles into the main axis of Mount Brooks that runs north and south. Actually we found ourselves some 500 feet below this main axis with what seemed a potential windslab avalanche slope in between. Yet we found the snow granular and stable, and ascended without difficulty. The view was inspiring, for now we could see McKinley to the west, while our route ahead looked like some vast highway of the gods. The Brooks Ridge was beautifully corniced its entire length. As we climbed, the smaller northeast ridge dropped away below and behind, the huge broken glaciers on Brooks' east face taking its place. The snow was now deep and powdery, occasionally supporting a hard crust sculptured by the prevailing winds. We found crampons more valuable than snowshoes. Once our highway narrowed and steepened into an interesting pitch where we placed a fixed rope as an aid to our return.

We reached the summit cone slightly after 4:00 P.M. By then the weather had broken to obscure the view. Remaining only long

Top: MATHER NORTH, SUMMIT, AND MATHER SOUTH FROM MOUNT JEFF (9900 FT.)

Bottom: MOUNT DECEPTION FROM EAST BROOKS GLACIER
Mount Silverthrone to right of Deception; shoulder of Mather A in left foreground. Evening light at 9500 feet

Photos, D. J. Bernays

enough to photograph the H.M.C. banner and secure a few specimens of the black shale so characteristic of Mount Brooks, we began our return climb, pleased at our success and happy in the knowledge that a survey camp could be established on the summit.

Our descent was rapid even though all were tired, for ominous clouds were rolling in from the southeast. Our potential avalanche slope was in the shade now, requiring considerable care. Near its bottom, Briggs and I tried some practice belaying only to find ourselves soon sliding rapidly downhill until my determined effort to stop myself ended our journey. As Briggs was on his first mountaineering expedition, the rest of us were determined to initiate him the hard way.

When we reached camp at 8:30 P.M., we knew our climbing weather was over. One of those strangely weird sunsets, when the entire western horizon takes on a greenish hue, was drawing to a close. And in camp the wind had increased, as indicated by our two collapsed mountain tents. That night we dug a garbage pit and settled down.

Rain fell during the next three days, not constantly, yet frequently enough to keep us from reascending Brooks. No sooner would the rocks dry outside our tent than the rain and mist would again beat down. The third day, Briggs and I hiked up the Muldrow to McGonagall Pass for a check on our equipment tent. We found it collapsed as expected, while, nearby, a neat pile of unprotected yellow cylinders, labeled "Cruz Roja" told us that the long delayed Mexican McKinley party had finally arrived. Fortifying their cylinder lids with stones, we hoped that the McGonagall Pass bears did not like tortillas.

Briggs did some botanizing while I climbed McGonagall Mountain (6400 feet) to establish a survey cairn on the summit. It snowed a bit, unsettled weather soon ending our activities. McGonagall Pass left me in no doubt that it boasted some of the worst weather in the Alaska Range. Only the short-billed gulls, which apparently breed here, relished the location. We called them "Andrews," after one bird that had endeared itself to us at our Cache Creek Campsite.

On the 9th, Humphreys and I left Camp II, early, to pack the survey gear as far up Brooks as possible. By now the weather was following a pattern—the evening, night, and early morning were

beautiful, while during the day the mountains were hidden in mist. On reaching the first false summit above 11,000 feet—and there is a series of them, we cached the theodolite and retreated, to meet the other climbers, coming with huge packs, just below 10,000 feet. That night we established Camp III (9800 ft.), pitching both mountain tents on a narrow shelf protected from above by the icy wall of a massive earthquake crack. It was a spectacular site perched on the very edge of the main Brooks Ridge with the Muldrow lying some 4000 feet directly below.

The next morning Humphreys and I reached the summit. The weather was discouraging. For several hours we stood around hoping in vain for some reference point to emerge from the cold mist. Caching the theodolite, we descended to Camp III, where we found that Dave and Win had manufactured a beautiful snow camp. They had constructed a huge arching "kitchen" of snow blocks against the sixty-foot revetment of the earthquake crack and built up much-needed walls around the mountain tents.

On July 11th we went to the summit to stay. While Humphreys and I surveyed, Bernays and Briggs dug a cave into the summit cone, arching its entrance with snow blocks. Afterward they returned to Camp III. We found it very windy. Sudden gusts would jam the surveyor's eye into the eye-piece, yet we had so frozen the tripod legs into the snow that they wouldn't budge. That night we surveyed until 10:00 P.M. The evening was beautiful, a half moon lying just over Mather, while the alpine glow hung above the horizon and clung to the north slope of McKinley. Forced into our cave by a rising wind, we barricaded the entrance with packboards. Still the night was cold, windblown snow sifting in over us. It was a night when one prayed for a method of suspending himself within his sleeping bag without touching the sides.

The next morning I arose at 2:00 A.M., and Humphreys got up shortly afterward. We surveyed until 10:00 A.M. when the clouds swept in. Yet those eight hours, like the eight the day before, had been very productive. We had surveyed every important point, including Wonder Lake and Camp Eielson as disclosed by occasional flashes of the whirling mirrors. As for the rock we had painted white, it shone like a beacon. At noon Dave and Win arrived with some food and a stove. That afternoon they went down to Camp II, partially evacuating Camp III on the way.

Humphreys and I remained in our summit cave waiting for it to clear that afternoon. When it did not, we tried to light the stove, only to watch the infernal thing nearly explode, forcing us to throw it hastily out the entrance. Fortunately we still had our beards, although the entire inside of the cave was black with soot. Later that afternoon, we built a large cairn of snow blocks on the summit before descending in the mist to Camp III. The next morning, with the weather slowly closing in for good, we went down to base camp, finding the lower slopes of Mount Brooks grown treacherous. The winter snow was melting fast, requiring us to cut steps for long stretches and wear crampons until we reached a final thousand feet of scree that brought us into Camp II.

That night it rained, bad weather continuing until the 19th. Twice Briggs and I climbed the Muldrow to McGonagall Pass to botanize, but on both occasions rain or sleet soon curtailed activities. On the second trip, however, we ran into Captain William Hackett and his party as they were returning from their successful ascent of McKinley. Hospitably entertained at tea, we were relieved to learn that the party had not attempted an ascent of Mount Brooks, as had been rumored to us in Fairbanks. Ours was the first ascent.

Back at Brooks Base camp, the arrival of an "Andrew" livened us up. We were all delighted, especially Bernays, who I suspect was interested in our mascot for other reasons than aesthetic. Several times we caught him muttering over his worn sleeping bag about the possible merits of crushed gull feathers.

On July 18th, tired of sitting, we sorted out five days food and started up the Brooks Glacier. At about 6800 feet we established camp at the base of the Mather Icefall, that spectacular snout of the East Brooks Glacier where it tumbles out of the huge Mather basin. Here the glaciers, no longer littered with morainic debris, looked as they should. That same day, in driving snow, we willow-wanded the Mather Icefall to 8000 feet before being forced back to camp because of poor visibility. Perhaps, we hoped, the violent weather that continued all night was a sign of an impending front. And we proved right. By noon on the 20th, clearing weather had swept over us, just as it had some two weeks before.

The ascent of Mather, on July 20th and 21st, was the climax of the expedition. With beautiful weather we snowshoed up the

Mather Icefall through the maze of crevasses that we had willow-wanded the day before. Against a background of Mount Deception, seracs reared upward like grotesque animals twisting in pain. By three o'clock we stood at the top of the icefall, looking up the serpentine East Brooks Glacier. The sun was intensely hot, three sides of the glacier hemmed in by glaring white peaks. Small avalanches continually broke loose from Deception and Mather "A"—both peaks yielding little approach from this direction. In silence we snowshoed up the glacier, the huge Mather basin growing continually closer while at our backs stood Mount Brooks and the twin peaks of McKinley.

The summit ridge of Mather is narrow and long (half a mile in length), with three separate summits along its crest, of which the centermost is the highest. Our approach was to strike at the true summit from the west, quitting the East Brooks Glacier well below the huge cirque of its origin that lies beneath the Mather Headwall. Such a route would enable us to traverse the long summit ridge from the North Peak to the true summit and perhaps on to the south and lowest summit.

Once we left the glacier we ascended a long snow slope toward Mather Col (10,000 ft.) that lies between Mather North and Mount Mutt (ca. 10,200 ft.) to the northwest. Far below we could see our tracks twisting like some huge snake stretched out at rest. The air was growing colder now, hardening the corn snow until our snowshoes began to slip. "Sidehilling" up the last steep pitch below the col, I felt like a cow on a Swiss hillside.

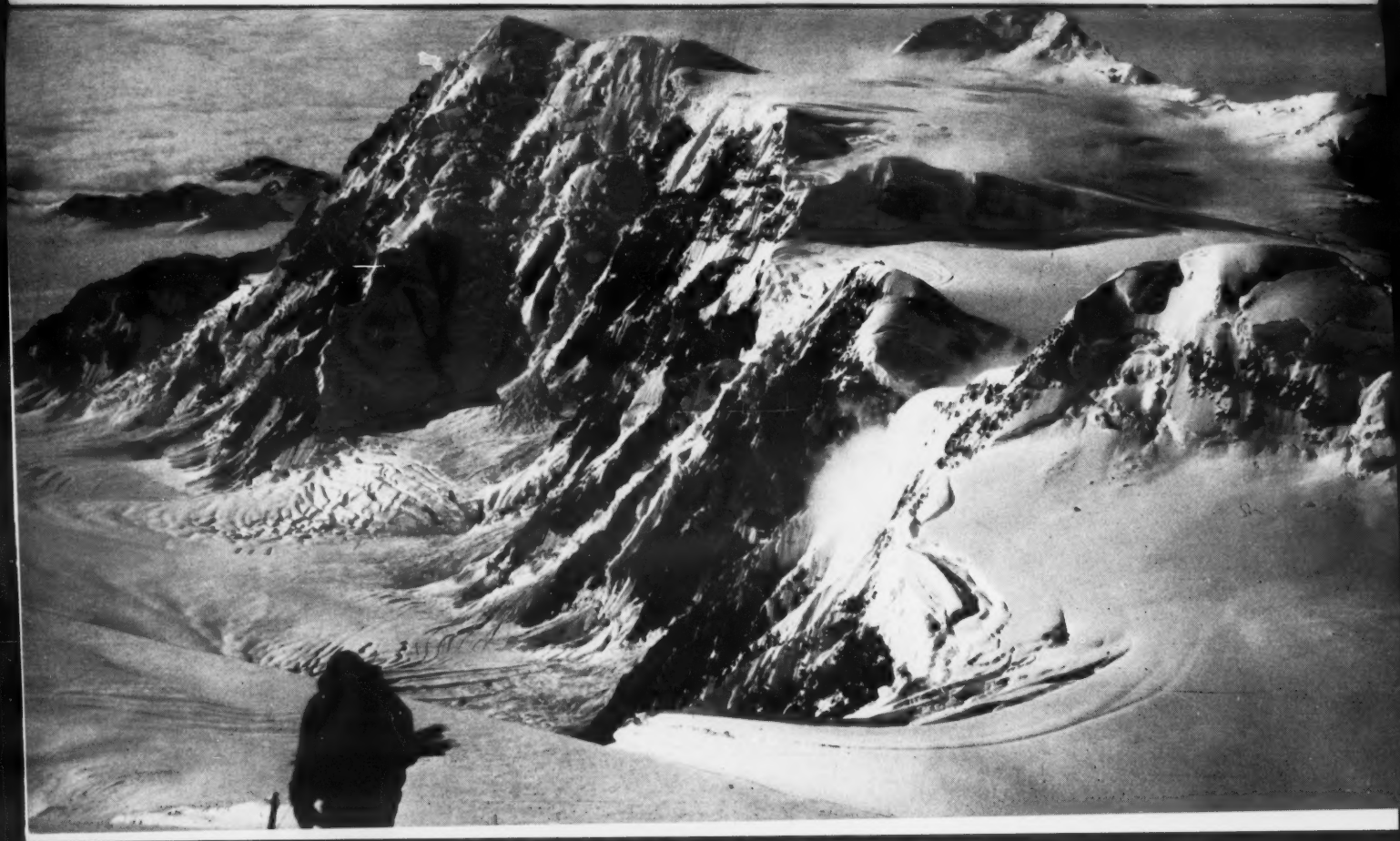
At seven, in the evening mist, we reached the col and removed our snowshoes. Above us a 45-degree slope angled up to the Mather ridge, steepening near its top to 60 degrees. We started up in single file on 240 feet of rope. The snow still was soft and deep, a crust not yet formed by the evening cold. We were two-thirds of the way up, when, without notice, the entire slope settled with a terrifying snap—like thick ice breaking up in spring. And just ahead a thin line of cleavage appeared, perhaps a quarter of an inch wide. It was a frightening moment! We hastily climbed some 30 feet to where the slope steepened and turned to ice, our route twisting up between rocky outcrops. Clinging to one of these, we eyed the slope below; but it never budged again. With crampons now on, we cut steps up the final pitch, reaching the

Mather ridge some 700 feet below the North Summit. The sun, a fiery though heatless ball, cast a pale glow upon us, while far out over the valley to the north the thousands of tiny muskeg lakes reflected like mirrors.

The rest of the ascent was sensational. Although technically not difficult, the knife-edged ridge offered tremendous exposure and occasional steep pitches. We moved continually, quite secure on our four-man rope, picking a route along the Mather crest with deep windslab often on one side, cornice on the other. At 1:00 A.M. we reached the expansive north summit. Then we traversed the knife-edged ridge to the true summit, arriving at 2:30 A.M. It was sunrise, yet the early rays of light that touched the wind-sculptured snow created no inner warmth. Elated but cold, we ignored the difficult traverse to the lower south summit and descended rapidly to Mather Col. During the next few hours we climbed both Mutt and 9950-foot Mount Jeff, and started up Wedge, only to retreat some 600 feet below the summit because of avalanche danger. A broiling descent down the East Brooks Glacier brought us back to camp after 24 hours of almost continual climbing.

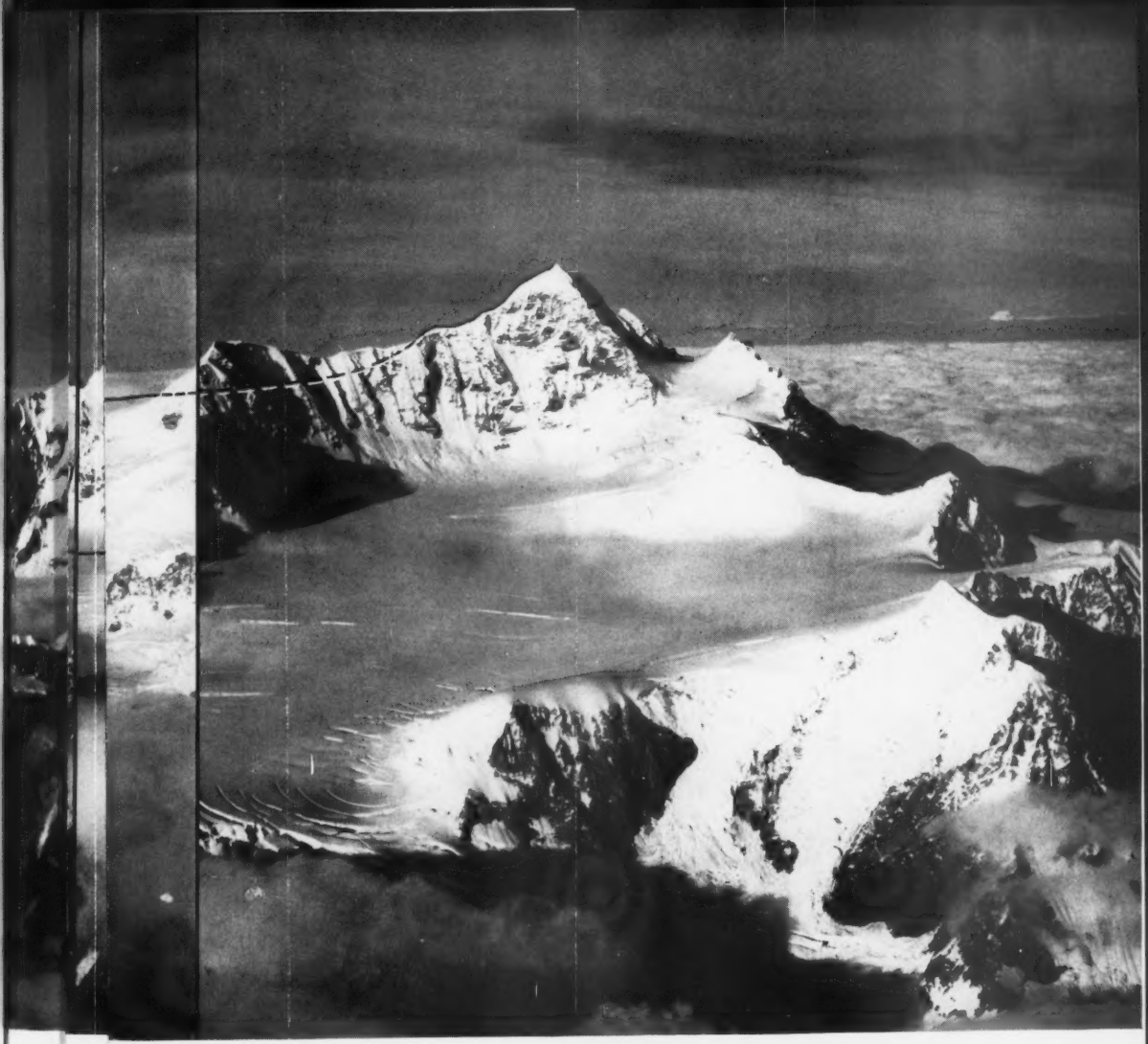
The next morning, the weather still beautiful, we left camp for Brooks Gap—a long, gradual snowshoe journey up the Brooks Glacier to its origin at 11,000 feet. First our route was flanked by Deception and Brooks, then higher up by the Alphabet peaks and massive Mount Silverthrone. Reaching the previously unexplored Gap, we gazed with awe over the corniced rim where, several thousand feet below, a tributary to the Eldridge Glacier arose. No one, we felt, could penetrate the Alaska Range by that route. Shortly after we had judged Peak "5" practically impossible from this side, we turned our attention to 11,400-foot Peak "A," which we climbed without difficulty. Now the weather was showing signs of breaking, clouds beginning to drift in between Silverthrone and Brooks. It was evening. Slowly we climbed down to the col be-between Peaks "A" and "B" and then ascended the latter by a short but interesting corniced knife-edge. Twelve midnight again found us back in camp, after descending the west ridge of Peak "B" to the Brooks Glacier where we struck our morning's trail. So ended our last climbing day.

During the final eight days the weather was generally poor.



Mount Crillon (12,728) Climbing Camp (1933, 1934 and 1952)

Mount Dagelet (9550) La Perouse Glacier



Mount La Perouse (10,750)

Six of the eight it rained. Rapidly we evacuated our Mather Icefall camp to Camp II, relaying the latter to McGonagall Pass and from there back down into the Cache Creek basin where we set up a botanizing camp at 4000 feet. While Briggs collected specimens in the Cache Creek basin, Humphreys and I climbed McGonagall Mountain to survey and finish the collection for that area. We were overjoyed to see how well our snow cairn on the summit of Brooks stood out.

The pack out to Wonder Lake was long and wet. Because of the bulky botanical collection, it was necessary for each man to relay out two loads. Even then we left 60 pounds of miscellaneous equipment for one of the Geodetic Survey's helicopters to pick up. On July 30th we made the last wet crossing of the McKinley Forks. The day before had been even more unpleasant. In a continual drizzle we had each crossed the Clearwater three times. Swollen with rain, its rocky bottom in motion, this generally placid stream, to me, was one of the worst hazards of the summer. Yet remarkably enough, our presses remained relatively dry.

The analysis of the collection revealed that 28 plant families are represented. During the expedition, the McGonagall Pass area was collected throughout the flowering season. And a beautiful flowering season it is, the rocky slopes literally covered with thousands of yellow arctic poppies, purple saxifrages, and tiny pinks—to mention only a few. It is our hope that the collection may give the Alaskan mountaineer a more comprehensive knowledge of the flora he so often sees yet seldom knows.

Ascent of Mount La Perouse

James F. Seitz

As part of our job last summer five of us had the pleasant task of climbing Mount La Perouse, a previously unclimbed mountain in the Fairweather Range, Alaska. We were members of a U. S. Geological Survey party investigating the geology of a layered gabbro body which makes up Mount La Perouse and Mount Crillon. One critical section of this gabbro body was exposed near the summit of Mount La Perouse, which meant if we were to be thorough in our investigation we would have to climb the mountain. This prospect pleased me even more than the others as I had developed a great admiration for Mount La Perouse while working in the Glacier Bay area during the previous three summers.

Our field season began June 9th when we flew with our gear from Juneau to Lituya Bay. From Lituya Bay we then backpacked the gear around to the ocean beach where a small wheel-equipped plane picked us up, one or two at a time, and flew us to our first main camp site on the beach between La Perouse Glacier and Icy Point. From this and other camps farther east on the beach we worked throughout the rest of June and all of July on and near the flanks of Mount La Perouse.

During these first two months our most memorable experience came not from climbing but from camping and working near the terminus of La Perouse Glacier, the only glacier in Alaska which extends beyond the outer coast line and discharges icebergs directly into the ocean. From the beach this glacier was an impressive sight as it loomed massively against the horizon, sloping down from the mountains and continuing across the beach to end in a cliff front three miles long and 200 feet high. We often saw masses of ice break off the face of this cliff to fall into the ocean with a tremendous splash and roar. The frequency of these discharges indicated rapid loss of ice from the glacier and a correspondingly rapid forward movement of the glacier to make up this loss. Not only is the glacier holding its own against this loss, but the front has steadily advanced during at least the last four years and the sides are now over-riding and crushing mature forests. The most

MOUNT LA PEROUSE

Summit upper right. Tremendous cliffs at the head of Brady Glacier seen from the eastern end of summit ridge of Mount Crillon in 1933

Photo, B. Washburn

striking evidence of the rapid movement of the glacier was found by Don Miller, Geological Survey, who saw ridges of sand five feet high pushed up on the beach at the margin of the glacier below high tide level. As the ridges had been formed after the last high tide, this meant the glacier had shoved them up in less than six hours.

Early in August we moved our camp to Crillon Lake to work on Mount Crillon and the upper part of Mount La Perouse. The members of the party who were to participate in this high work were Karl Stauffer, Rowland Tabor, Rolland Reid, Paul Bowen, and Ian Hendrickson as field assistants and myself as geologist. Darwin Rossman, party chief, was unable to be with us in the field at this time.

On August 10th Rossman flew out from Juneau to drop two drums of food at 5000 feet on a ridge and four drums at 7000 feet in the large basin below the main southwest cliff on Mount Crillon. On the 11th the six of us climbed up to the lower drop site and established an overnight camp. Here we found a useful tent pole and a shovel left in 1934 by Bradford Washburn's party on their ascent of Mount Crillon. From this camp we could see rugged icefalls on either side, glaciers below spreading out to the coast, the vast sweep of the ocean a mile below us, the mountains in the distance from Mount Edgecumbe, 130 miles southeast, to Mount St. Elias, 170 miles northwest, and, dominating all, the mass of Mount Crillon rising above us.

The next day we hiked on up to our main drop site at the upper end of the 1½ by 3-mile basin and set up camp. From here we planned to work out the geology of this basin and also of the area to the east, including Mount La Perouse. A quick reconnaissance to the east revealed, however, an obstructing bergschrund on the col above camp, so we postponed work in that area and spent the following two days completing our work in the basin. Evenings we spent prospecting the bergschrund for a way across. On the third evening in camp Karl with the help of Rowland and Paul succeeded in crossing a large block of snow caught between a sheer upper wall and an overhanging lower lip of the bergschrund. Then, by gouging holds up the remaining ten feet of the upper wall, he succeeded in reaching the slope above. This opened the route to the east.

When we started for Mount La Perouse the following morning, August 15th, the temperature was below freezing and the sky, which had been predominantly clear for five days, was now turning cloudy. We crossed the bergschrund with the protection of the fixed rope placed the night before, hiked over the col, and on down into the next basin. The snow was frozen hard and we clipped along at a fast pace.* As we swung down around the base of Mount Dagelet we came into view of the crevassed upper areas of the La Perouse Glacier where it spills out of the great La Perouse-Crillon ice plateau. These crevassed areas had looked formidable on the aerial photos and they looked no more encouraging in actuality. However, the only access to the plateau lay through them, so after dropping 1500 feet from the col to the La Perouse Glacier, we were down on the crevassed area and starting our zigzag course up to the plateau. We soon discovered that we had misjudged the scale of the crevassed area and, though the crevasses were much larger than expected, so were the ridges between them. As a result we had little difficulty picking a way through the maze and on up to the smooth ice plateau.

Mount La Perouse now rose before us, a great ice-covered pyramid, as we plodded up the gentle rise of the vast plateau. Approaching the mountain, we speculated on which part offered the best route to the summit. The side towards us was steep, covered with hanging slabs of ice, and not to be climbed. The other two faces we knew from previous observation were bare of ice but even steeper and dropped off 3000 to 4000 feet to cirque basins below. This left as possible routes the north and the west ridges, with the west ridge having the advantage for us in as much as it was closer. The nearness of the west ridge decided us, so we hiked to it and climbed up onto its crest at the base of the peak. At this time Ian, who had not had previous climbing experience, elected to remain there rather than chance slowing us down on the final stint.

After some step cutting along the crest of this hard frozen snow ridge we discovered that the snow had melted back three

*To this point the route was the one followed by the Harvard Expeditions to Mt. Crillon, led by Bradford Washburn in 1933 and 1934. The Col with the bergschrund is the "South Col" referred to in *Crillon 1933*, Williams S. Child, *A.A.J.*, 146 ff.

feet from the edge of the south cliff, leaving a ledge extending almost to the summit. This was a stroke of good luck as it not only speeded up our ascent when time was vital, but it also exposed a continuous cross section of the bedrock and enabled us to collect specimens representative of the highest exposed layers. As we scrambled up this ledge, we could look down the southwest face of Mount La Perouse to the basin 3000 feet below and, farther out, to the ocean 10,000 feet below. Fifty feet from the upper end of the ridge we climbed up the snow to the left and traversed over to come out on the top snow cornice of Mount La Perouse, thus completing a first ascent of this 10,750-foot mountain. On a clear day the view would have been exceptional, but now broken clouds were everywhere and within fifteen minutes we were completely enveloped in fog.

We descended the ridge, tied in Ian, who was thoroughly chilled from standing for two hours, and followed our tracks in the fog out across the plateau. We came out below the fog as we climbed off the plateau and at the same time began sinking in to our knees in the softened snow, continuing to sink in for the remaining six miles back to camp. After being gone 15 hours we reached camp about 10 P.M. We had hiked 18 miles and climbed more than 6000 feet.

Since it was late and we were tired, we planned to sleep late the next morning before breaking camp and hiking out. However, we reckoned without the weather on that decision because we were awakened the next morning at six o'clock by the rattle of snow blowing against the tents, indicating that it was time to leave. By the time we had finished breakfast and started packing, the tents were caving in under the weight of freshly accumulated snow. Visibility was almost nil and crevasses were rapidly covering over with the blowing wet snow, so that picking our way out of the empty expanse of the snow field was tedious work. Never have I seen a bleaker picture than that made by the five figures on the ropes behind me, plastered with snow and all huddling with backs to the blizzard, the farther ones barely visible in the murk when I turned around with my back to the wind to check the compass.

As we descended out of the clouds, the snow changed to sleet and, farther down, to pouring rain, all accompanied by a high wind. The seven hours spent in going down through this mean weather

made our base camp seem more than ever the ultimate in comfort. When the storm ceased five days later, several feet of new snow had been deposited on the mountains above 5000 feet, and further work there was impossible for the year.

APPENDIX

Postscript

Had we been able to obtain the use of either a helicopter or a ski-wheel equipped airplane, our transportation and supply problems would have been greatly simplified. There are many high snow fields in this region that would make excellent landing fields. We were unable to obtain either of these specialized types of airplanes and therefore had to resort to dropping food and gasoline free fall from ordinary land and amphibian planes. For this free-fall dropping the food was packed in ten-gallon heavy steel drums, each drum containing rations for six men for one day. Dry foods were put in plastic bags, and these and the canned foods were tightly packed into the drum with corrugated cardboard and shredded paper for padding. I must add here that by the end of the summer the dry foods tasted like plastic. The food came out undamaged when dropped on snow or sand, but some cans of food were broken when the drums landed on hard ice.

For fuel we partly filled one-quart screw-top cans with gasoline. Eight of these were packed with quantities of corrugated cardboard into C-ration boxes and strapped with steel bands. This method proved successful as we had 100 per cent recovery on landings in snow and 80 percent in landings on the ice. In one instance we dropped the cans loose onto soft snow and they came out intact.

As a final note I would like to thank Bradford Washburn for his generous contribution of photographs to accompany this article. He kindly offered them when I mentioned that my photographs were in color and difficult to use for illustration. I am certainly the gainer in this as his photographs portray these mountains far more beautifully and with far greater justice than mine do.

J. F. S.

Cordillera Blanca Adventure

WILLIAM SIRI

IT IS perhaps surprising that mountaineers, who in the past fifty years have sought conquests in the most remote parts of the world, have devoted so little attention to one of the greatest, yet one of the most easily accessible, mountain ranges. It cannot be said that the Andes is a climbers' paradise in every one of its 4,500 miles of length, but in subranges like the Cordillera Blanca there are concentrations of great peaks that would keep even the most indefatigable mountaineer occupied for a life time. Moreover, the Cordillera Blanca, with more than 27 peaks of over 20,000 feet, is one of the easiest of the great ranges to reach—at most a two or three-day flight from anywhere in the United States and a one-day drive from Lima, the capital of Peru, to Huaras, the 10,000-foot high capital of the province of Ancash. Once in Huaras, mountaineers are enthusiastically welcomed by Dr. Augusto Soriano Infante and Sr. Cesar Morales Arnao of the recently formed Grupo Andinista Cordillera Blanca.

Our interest in the Cordillera Blanca began three years ago when Siri spent several months in Peru as part of a research team from the University of California that was studying problems in high altitude physiology. Little serious mountaineering was attempted on this trip, but it did stimulate an intense determination to return fully equipped for a serious mountaineering effort.

The opportunity came toward the end of 1951. Dr. John H. Lawrence, leader of the first expedition, planned a second series of studies in the same laboratories of Dr. Alberto Hurtado in Lima and at Morococha (14,800 feet), and at the Hospital of the Cerro de Pasco Corporation in La Oroya for the summer of 1952.

The United States Air Force, which had provided transportation for the first expedition, was again to transport men and equipment for the second series of studies. Hearing of the second expedition, a group of us interested in climbing some of the higher peaks in the Andes thought that we might obtain transportation by adding to the program special physiological studies on ourselves during our

mountain climbing venture. It was thus possible to arrange for transportation in the Air Force plane, which had adequate space for the additional men and equipment.

The six-man mountaineering team that boarded the plane at Oakland, California, on July 5, 1952, included Oscar Cook, Allen Steck, Fletcher Hoyt, Leigh Ortenburger, Peter Hoessly, and William Siri. In addition to serving as a subject, Hoessly would assist Siri with the studies and also serve as expedition physician once the climbing party was in the mountains. Dr. Lawrence and Dr. Nathaniel Berlin, with whom we traveled, were to carry out their program with Peruvian subjects in Lima and at 16,400-foot high Ticlio.

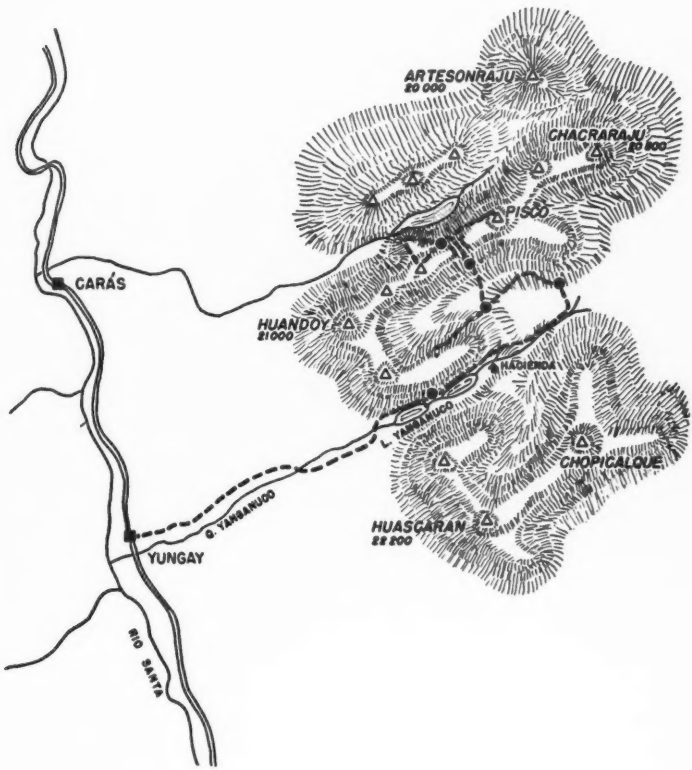
Our first day in Lima was spent on last-minute preparations and the next, on a photo-reconnaissance flight around the Cordillera Blanca, a spectacular flight generously provided by the U. S. Air Mission at Lima. The next day we left for Huaras by truck and car. Among our 1,500 pounds of equipment, all in duffel bags, were the scientific paraphernalia, 6,000 feet of 16 mm Kodachrome movie film, and food for 30 days.

In Huaras, the following day, we were warmly welcomed by the Grupo Andinista, presided over by Dr. Soriano and Cesar Morales, who offered us every assistance possible. Equally important to our efforts to get under way was Victor Benavides from Arequipa, a graduate student at Columbia University, who at the time was collecting paleontological specimens in the Cordillera Negra. After several days acclimatization above 10,000 feet, the six climbers, together with Dr. Berlin and Sr. Benavides who were to accompany us for the first week, assembled in Yungay on the morning of July 16th. Awaiting our arrival were our seven porters and a dozen burros. Among the porters were Eliseo Vargas, the foreman, Macario Angeles, and Felipe, who were to be our constant and devoted companions throughout the trip.

Our first objective was the high plateau between the three principal peaks of Nevado Huandoy. From here, assaults on the three peaks, as well as neighboring summits, would be attempted. The route, following the Yanganuco Valley to its head and then ascending to the east flank of Huandoy, was essentially that followed by Schneider in 1932 and by the French expedition in 1951.

Burros carried the loads eighteen miles to the head of the Valley

where the equipment was then relayed to successively higher camps by the porters. By July 18th we were camped by the lateral moraine of the glacier that drops precipitously from the upper plateau into the great East Cirque of Huandoy. A brief reconnaissance revealed only one feasible route to the plateau. It was in every sense a climbing route, ascending the steep broken glacier, up high angle ice chutes, and over a huge ice wall. It was not a route we could expect our ill-equipped porters, or even ourselves, to negotiate with equipment and food for twenty days. Our only alternative for a permanent



SKETCH MAP OF ROUTE AND CAMPS ON NEVADO HUANDOY

18,000-foot camp lay on a snow saddle across the glacier and high on the northeast ridge of Huandoy.

Both Dr. Berlin and Benavides, their time exhausted, now returned to Huaras, Dr. Berlin to carry out his scientific work in Lima and Morococcha, and Sr. Benavides to continue his paleontological studies.

The next camp, at 16,000 feet, was quickly established on the far (north) side of the glacier below the saddle that was now our immediate objective. The next day when Cook and Siri arrived at the camp with the porters, the rest, according to plan, had already proceeded up a rib of rock and a small lateral glacier to the saddle. In the afternoon, Hoyt and Siri followed, heavily loaded with equipment, for we intended to have at least two men begin permanent occupancy of the high camp (Camp 5) that night. The scientific studies could then begin in the morning and with this work, our 20 days of high life. Late in the afternoon we returned to the lower camp (Camp 4), leaving Steck and Ortenburger to man the high camp for the first night. At Camp 4 we found Cook cheerful but clearly distressed with *soroche*.

The following morning, July 22nd, everyone but Cook was out of his bag early to assemble loads in anticipation of the final move to the high camp. Far above us Steck and Ortenburger could be seen, two tiny black spots moving about on the snow slopes. At 9:30, with porters ready to be off, Cook was still in his sleeping bag, and sensing that he was ill, Siri walked over to the rocks where Cook was encamped to see how he felt. Siri was stunned to find Cook semi-conscious, and at a shout of alarm, Dr. Hoessly quickly came over to examine him. It was impossible to make a clear diagnosis because of the absence of symptoms other than coma, but it was clear that, without oxygen, Cook could not survive and would have to be carried down immediately to Yungay and lower elevations. As Hoessly administered to Cook, a litter was improvised from climbing ropes, and the two men above were signaled to return. Hoessly and Hoyt with five porters started down to the glacier with Cook, who was now bundled into two sleeping bags on the litter. They were soon joined by Steck and Ortenburger from the high camp and by Siri, who secured the lower camp while waiting for them.

The next 24 hours of anxiety and brutal struggle down the

mountain will not quickly be forgotten by Cook's companions. The route passed down steep scree slopes, over moraines, and across hills of loose debris covering the glacier. Long after nightfall, the party was forced to stop because of exhaustion and treacherous terrain. At the first light of dawn the struggle continued, and Cook grew steadily worse. By mid-morning, the litter party reached the first high alpine meadow and there, while the tired crew stopped for a brief rest, Oscar Cook quietly succumbed to pneumonia* without regaining consciousness on July 23, 1952.

Hoessly and Siri proceeded quickly to Yungay to make whatever arrangements would be necessary, and in the small hours of the next morning the rest of the party arrived, bearing Cook's body. Four of the porters had carried Cook 20 miles down a treacherous trail in total darkness and with only one brief stop—a tour de force of heroic proportions. Dr. Lawrence came down to Lima from Morococcha and, with Dr. Berlin, now bore the brunt of the complicated arrangements to fly Cook's body back to San Francisco. But without the personal intervention of Sr. Pease, Prefecto of the Provence of Ancash, and the sympathetic and efficient assistance of officials in Huaras, the task would have been literally impossible.

A week after Cook's death found the party hiking sadly over now familiar terrain, past the cairn erected at the spot where Cook died and back to the abandoned camps. With us again were Eliseo, Macario, and Felipe to carry loads. So little time now remained before the scheduled return to the United States that the scientific program, which was never begun, was perforce abandoned, but it was decided to attempt a few ascents while retrieving our equipment.

On July 30th, the first day back in our former high camp, a reconnaissance of the unclimbed east peak of Huandoy revealed two possible routes to its summit (about 20,500 feet). The route favored by Hoessly and Hoyt lay along the crest of its steep and heavily corniced north ridge. The other, considered the most likely by Steck and Siri, followed a rib straight up the north face until it met the north ridge several hundred feet below the summit.

Before attempting the east peak, we elected first to make an ascent of Pisco, a 19,000-foot peak rising above our saddle camp to the northeast. The peak, first climbed by the French Expedition in

* Post mortem later revealed that the illness was a fulminating, diffuse bilateral pneumonia, an affliction which is particularly serious at high altitude.

1951, was facetiously named by them after the Peruvian National Beverage. Despite a late start, little difficulty was anticipated; a broad, easy slope, beginning at the saddle, continued almost unbroken to the summit. Only a few pitches through a patch of broken ice blocks required step-cutting and careful belaying. Immediately below the summit, deep unconsolidated snow on a short but steep slope proved exasperating but was no serious obstacle.

We returned in a light snow squall, well before darkness, to be greeted with admiring grins and congratulations from our porters. We felt it unkind to disillusion them about the difficulty of the climb.

The attempt on the east peak was set for the next day, August 1st. Early in the morning, in total darkness, Hoessly and Hoyt set off across the high glacier toward the north ridge. Steck and Siri soon followed for a try at the north face. If both ropes should succeed, we would meet on the ridge just below the summit. Ortenburger, in bitter disappointment, was constrained to camp by a severe attack of intestinal disorder.

The ascent of the face, while demanding great caution with rotten and loose rock, proved no more difficult than fourth class, although pitons were used occasionally for belay anchors. By one o'clock, Steck and Siri had clawed their way up the last steep pitch of hard snow to the top of the ridge and, after assuring themselves of the other rope's progress below on the ridge, continued on to the summit.

Hoyt and Hoessly were a half hour behind but had made a remarkably rapid ascent of a very difficult ridge. At times it rose at high angles above them, heavily corniced on the west side and too steep to cling to on the east. It was later clear from their insistence on returning by the face route, that they had enjoyed an exhilarating climb – but too exhilarating to repeat.

By three o'clock everyone had been to the summit, consumed his ration of canned tuna, chocolate, and raisins and was assembled on the ridge below for the descent. By six-thirty the party was overtaken by darkness, still only half way down the face. Fortunately the night was clear and still, with a three-quarter moon dimly lighting the way. Under the circumstances, a bivouac was not seriously considered and the descent continued. But there now was no way to avoid dislodging rocks, and in the semi-darkness progress became painfully slow and

NEVADO PISCO (ca. 19,700 FT.) FROM SADDLE BETWEEN PISCO AND EAST PEAK OF HUANDOY
Trail leading to summit barely visible in snow
Photo, L. Ortenburger

cautious, more by feel than by sight. During the hours that followed, we were cheered by a tiny point of light far below—the Coleman lamp that Ortenburger had set out as a beacon.

Once on the glacier below, progress was rapid, and at midnight we marched tired yet happily into camp to hot tea and soup that Ortenburger had thoughtfully prepared.

Since our time was rapidly running out, we faced with considerable regret the anticlimactic trip back to civilization before the goals we had planned had been realized. In Huaras, however, our spirits were raised by an extraordinary reception by the Grupo Andinista at the home of Sr. Morales where we also met Dr. Egeler and deBoy who, with Lionel Terray, had just returned from their remarkable ascent, the first, of 21,000-foot Huantsan.

Top: HIGH CAMP ON NORTHEAST RIDGE OF NEVADA HUANDOY
Looking north toward Artesonraju. Pisco at extreme right
Photo, F. Hoyt

Bottom: AERIAL PHOTO OF HUANDOY GROUP
Left to right: Chacraraju (ca. 20,500 ft.), East Peak of Huandoy, Main Peak, West Peak, and South Peak. The main, west, and south peaks are all about 21,000 feet. The East peak is about 20,300 feet
Photo, L. Ortenburger

Conquering Mount Alberta, 1925

JEAN WEBER

FOREWORD

JEAN WEBER, a young Swiss, came to Canada as an emigre and fell in with high adventure—the first ascent of the last great unclimbed peak of the Canadian Rockies.

Several years before, in Switzerland, in 1921, a brilliant Japanese climber, Yuko Maki, tackled the Mitteleggi arête of the Eiger and succeeded in pioneering a new route which, even today, festooned with fixed ropes, is considered one of the finest climbs in the Alps.

After Maki's return to Japan, he made a skiing trip with Prince Chichibu. As their train passed Mount Asama, the Prince turned to Maki and pointed to the frontispiece of the book he was reading, Palmer and Thorington's 1921 edition of *A Climber's Guide to the Rocky Mountains of Canada.* There—was a photograph of unclimbed Mount Alberta. The challenge had been heard around the world.

Maki organized an expedition under the sponsorship of Marquis Mori Tatsu Hosokawa, the *Tokyo Nichi Nichi,* the big Tokyo newspaper, and the *Osaka Mainichi.* In due course his party landed at Vancouver and traveled to Jasper, noting with keen interest the rugged terrain, the cowboys, mounted police, bear cubs, and beaver. By great good fortune they met there the well-known Swiss guides Heinrich Fuhrer and Hans Kohler, who had been brought over by the Canadian National Railway, and Weber. The climbing party now numbered six Japanese and three Swiss. Maki also met the redoubtable Val Fynn, who had just been driven back by forest fire from an attempt to reach the same objective, Mount Alberta. Fynn generously gave the Japanese all the information he had gained about the mountain.

Knowing that the region was a national park, the Japanese had brought with them an oil stove on the assumption that collecting and burning firewood would be prohibited. Learning of the danger of forest fire, each had provided himself with a tin can as an ash tray. It is unfortunate, as the records continually show, that not all visitors to the parks are as conscientious.

Immediately upon his return to Jasper, Jean Weber typed out an original account of the expedition and gave it to Mr. J. A. Weiss of that town. Mr. Weiss very kindly lent it to me so that copies could be made. Permission to reproduce this highly graphic and moving account has been given by the author. The editors have tried to keep to his spirit and intent, attempting to preserve the unique appeal of this classic of mountaineering literature.

John C. Oberlin

Even the mere fact of one's nationality may be in the hands of chance a sort of clay to create with a new sphere of adventure and thrills not even dared to dream of. The circumstances of my birth made me a subject of Swiss nationality and this was the main reason that my Canadian environment attributed me with the legendary Swiss qualities of being an expert climber, yodler, cheese and watch-maker, not to speak of the sweet craftmanship as chocolate candy artist!

Contrary to my insisting claims to be inossent of all these venerable attributes except that of a climber was I called at times to the deathbed of a watch of American birth or to produce on different occasion the marvelous acustic phenomena of yodel echos with the effect that by and by people looked with obvious glances of discredit at my alleged Swiss origin.

But, when in the summer 1925, a distinguished Japanese party of climbers arrived at Jasper to get a crack at the unconquered Mt. Alberta in the Columbia Icefields, was I given a chance to save the honour of my nationality with my climbing virtues.

The party was under the leadership of Mr. Yuko Maki, that time aide de campe of the Crown Prince now Emperor of Japan. Mr. Yuko Maki, a prominent alpinist who earned his laurels with the first ascent of the Eiger over the Mittellegigrat in 1921, was well informed about the Canadian Rockies in the connection with eventual first ascents of outstanding character and found in the task of Mt. Alberta which was attempted several times before but unsuccessfully, a very alluring temptation, the more as this mountain was in the eyes of daring alpinists a matter of doubtful accessibility. The late James Outram says about it in his book "In the Heart of the Canadian Rockies" as they looked from the top of Diadem Peak over

to Mt. Alberta: Quite close, as it seemed, the overpowering mass of the Mt. Alberta towered frowning many hundreds of feet above us. It is a superb peak, like a gigantic castle in shape, with terrific black cliffs falling sheer on three sides. A great wall of dark thundercloud loomed up over its summit; and there was a sublime aloofness, an air of grim inaccessibility about it that was most impressive." Other authorities who were impressed by this majestic peak expressed themselves in other not less effectiv words of admiration.

Thus was the attitude towards the Mt. Alberta in the beginning of the summer season 1925, Unconquered, but holding different parties in a seductive spell to tackle the last virgin peak of its altitude in the Canadian Rockies. Yuko Maki's party left Jasper on the 11th of July, 14 men and 39 horses and an outfit that would stirr up any connaisseurs envy. Not only was there every thing to enjoy the culinary tastes of the sons of the rising sun, strange seafood in airtight tins and different candies of Japanese origin as well as the old standby to satisfy on short order hungry stomachs the good old canned "prk and beans" and many more delicate specialties but also ingeniously concentrated outfitts for the different purposes for scientific and technical ends of the expedition.

Yes, it was an expedition in the literal sense and with every prospect for successful and enjoyable time for its supposed monthly duration. Neither was the movie-camera missing and in the run of time it found many favorable opportunities for excessive shooting at man, horses, wild game and scenic targets. The combination of the six Japanese gentlemen was a very intelligent and happy one viewed from different angles of fitness, first of combined strength in case they were dependent on their own alpinistic abilities shouldn't they have had the opportunity to hire in Jasper Swiss climbers of reputation, so Mr. Yuko Maki selected very carefully members of the Jap alpine club with the merit of recogniced achievment in skill and endurance, second from the aspect of the scientific part this party had the advantage of a combination consisting of members of the geological, metrological, astronomical, botanical, medical, geographical, photographical and an all around artistic faculties.

To give a clearer idea of this men in their different function I pass them in a short review. Mr. Yuko Maki, leader, organisator and arbiter in any case of misunderstanding a man of small phisical size but of the highest intellect and charming character and not

MOUNT ALBERTA FROM WEST FORK OF ATHABASKA RIVER
Photo, W. O. Field, Jr.

supposed muscular strength, with a smile he was able to disperse clouds of annoying circumstances which allways will appear on parties of some weeks duration and many different minds.

Mr. Hashimoto the leaders secretary and dramatic agency, knowing enough of the English language to acquire a terrible fluency in the cursing horsewrangler language and giving the whole party a good laugh at his expenses when it helped to animate a somewhat dreary or even dangerous position.

Mr. Hatano, if I remember right was well versed in matters of geology and gegraphy and a connaisseur of horses being a match for any horse wrangler I asked him how it came that he could make a colt go under his guidance like a good broken saddlehorse and he replied very modestly that he owns at home a stable with imported racehorses from England. Mr. Mita, was fond of botanic, always eager to gather some new flower specimens or to sketch with artistic skill a landscape in a few strokes, besides he was never too tired to read off the different scientific instruments or to engage in a interesting conversation.

Attending specially to the photographic part, including everything from taking picture to the finished print was Mr. Okabe's task. For this purpose was excellent established darkroom tent at his disposition. Knowing only a fragmentary English, some amusing misunderstanding were its results doing nobody harm. The last man was the biggest of them in size and strength a very suspicious appearance full of jokes and enjoying every minute of the trip, Mr. Haiakawa the medical man. He enjoyed to be called rather for assistence to carry some very heavy log than for medical aid.

For their supreme task, they hired at Jasper two Swiss guides professionell engaged at the Jasper Park Hotel and myself an amateur climber with a reputation to possess guides qualities. Anyhow my Swiss nationality and confidence in my usefulness were eminent factors for my engagement and the sesame for my future cariere in the Rockies.

Besides these nine members of the actual climbing party, there were fife men in charge for the transportation of the whole outfit Cliff Rowland at the head of it. He proved to be quite capable of handling it, sometimes even without that famous hearrising cursing which Mr. Hashimoto found so impressiv. Right in the beginning became I the victim of treachery among the horsehands with a

JAPANESE PARTY RESTING DURING DESCENT OF MOUNT ALBERTA
Photo, Y. Mita

humorous calculated effect which seemed everything but humorous to me. Knowing nothing about saddlehorses and packponnies and certain vices of bronchos and colts I put it up to a horsewrangler to give me a quiet fourlegged vehicle and was assured that I would get a lamb of a horse. When they bid me to mount the chosen one it didn't occur to me to get suspicious for the fact that Roy held it tight on the nostrils. So I got up but not sooner was I in the saddle than this lamb became a wild infuriated lion who seemed to have rather wings than legs and flew spinning and jerking towards a Jackpine thicket. I don't think I ever touched the saddle with the rightously there belonging part of my body but hung on the saddle botton like a flag on the flagpole during a tornado. I was tremendously sorry for my legs and arms the necessarily pediments for mountain climbing and the carriere which obviously was going to end right then and there in most infamous and premature way. Crash of breaking trees on both sides an annoying feeling of being jammed, laughter in distance and realizing that I hung Absalonlike in the trees were the impressions I got all at once, the next thing revealed the soundness of my personal tools except some tears in the trousers. To feel healthy means to be happy and this reconciled me for the moment with my adversary. A few days later I had the satisfaction to see one of them disappear with his horse in the brown floods of the Athabasca when the gravelbanks gave away all of a sudden, he asserted afterward that it wasn't a cold bath, but you know how glacierwater is!

The weather was good yet a smocky haze had veiled the mountains on both sides and the upper Athabasca valley appeared to be one mass of smock. We were quite a bit disturbed by messages from a fire fighters squad up there that it probably wouldn't be possible to proceed further than Chaba junction since the woodfire was still at large the whole width of the valley.

To come purposedly from Japan to climb Mt. Alberta and then to find themselves unable even to get a crack at it didn't harmonize with their determination and we all were loyally willing to try even a desperate attempt to break through the fireline if that should be the last chance. But when we arrived at the scene of fires destruction the wind changed its direction and for the time being was a farther spreading of the flying flames averted although fires and red ashes were still active in the roots of many fallen monarch.

Wind had its toll with ashes and we were for one day almost continuously victims of those dirty ash showers with that repugnant smell of burnt garbage. Stagnant heat lingered over the disconsolate place and more heat seemed to roll down the mountain side, heat seemed to reflect from the towering rockcliffs which lined the valley and the sun draw pitiless heat from heavenly spheres. Man and beast waded in sweat eagerly absorbed by ever rising clouds of ashes to adhere to the face like dirty glue and no chance to find relief for hours. Finally continued the trail on the marshy riverbank where the fire couldn't get nourrishment on the ground and only some tree tops were singed by spray fires. Some of the horses found it of advantage to plunge right in the river to get rid of the dirt and the same time to escape the muskeg with all its treacherous attributes. Well, the current right there was good and swift and resultet in the total disappearance of the greedy packponies only to gain foot some ways down stream and towards the other riverbank. It needed a truly strategic plan of the horse bosses to bring the prodigal sons and daughters back. Not so far away was a suitable camplace with a clear spring and we all accepted eagerly to spend the night there although we were not a regular days length on the trail, well the adverse trail condition made up for more than this to balance the time.

That evening an exalted air of joy and readyness to do great deeds perveded the camp; the air clear, a wind cooly descending the valley brought a delightful relief after the days suffering of magnified heat; the fear for a detaintion by an eventually new woodfire was wholly abandoned, ahead up the valley a marvelous view of skyscraping mountains in solemn silence imbued by a magic purple of seemingly translucent attributes so uniformly was near and far, rock and ice satiated of the glamour of the parting sun. The time between supper and darkness found the alpinists gathered on a rocky elevation above the riverbench where a instructiv sight at the mountains of the upper Athabaske could be seen and with maps on hand we reconised among the multitude of peaks, Mt Columbia a beautiful pyramid of regular formation bathing its diadem adored appearance in lofty hights of azure nothingness straight up in the middle of the valley very dominiant in form and hights being the highest next to Mt. Robson in the entire Canadian Rockies. The Twins, partly hidden although of

excelling hights, could'nt afford to equel in the grandious impression Mt. Alberta made upon us. Rising from the shadowy darkness of the valleys depth in one almost unbroken flight, first a stand of timber clinging to the steep sides, then a short green slope of a more gentle grade with rock bolders mergi with the last almost perpendicular rise of darkgrey cliffs weatherworn and forbiding to the sublime silver glittering top, a difference in altidude of about 7500 feet. In form a cathedral of gothic stile of tremendous dimensions truly a masterwork of its divine designer. Looking at the peak with powerful glasses and undiveded attention were we not able to discover any route of possible accessibility but Henry Führer a Swiss guide of international fame replied to the many unspoken questions true enough that there were still two other sides to get a look at and as far his experience go it would be a funny mountain to have no weakness. This reconciled us very much with Mt. Alberta which gave us right there a good shock of despair. Until late that night quaint melodies of old folksongs of English, Japanese, Indian and Swiss origin drifted with the flames of a smoldering campfires to the stary sky.

The following days ride brought us to the west base of our Mountain. We proceded from the camp in want for a trail on either side of the riverbed, mostly in the stream or on its little gravel islands which were aboundantly numerous in the now almost flat part of the Athabaska headwaters. The many streambranches we had to cross gave many exiting moments to the spectators who often played funny parts in the performance when all of a sudden a sand or gravelbar collapsed and horse and rider had to navigate themselves out of these unsuspected waterholes. This traveling in midstream had the further advantage of giving to both sides an unimpeded view having the imposing monarchs always as brilliant background there oppened many lovely vistas to nearby in the forest almost hidden jewels of natural charm, like foaming waterfalls the gentle brise carring its rainbow spray over mossy rockfalls to pines and spruce trees which stood there like statues in scantly a foothold giving niches or cracks of the sheer cliffs, there adorning their slender limbs with a myriad of subtile diamonds.

Sometimes gave a few Deer or even Moose or Cariboos a short escort through their protected haunts, very closely inspecting the kind of visitors they got showing not the least fear until they scented

the eternal foe: man, then they parted our company invariably with obvious disgust. Where spring avalanches year after year demand the right of clear way for the delivery of thousands of tons of winter-snow to the valley bottom patches of crimson flowers were glowing in undestructive fire a picture of quaint contrast to the soft darkness of the solemn mountain forests glimmering in the extravagant splendour of noonsun. Every instant revealed new treasures of beauty or impressive glances at some towering peak when a break or a draught nearest environ allowed a further view.

We were traveling in exactly southerly direction and the dazzling sun transformed the Athabaska to a silver chain of a thausand glittering links ever changing in form. From the many glaciers which brake in tremendous cascades off Mt. Columbia and the Twins shone lights so pure as if they were transcendental one could not help prevent an oppressed feeling of awe, awe confrontet with nature's grandeur and calm sublimity.

At intervals faint thunder of falling ice masses interrupted the quietude which was about perfect when no Hey and Ho or a fluent cursing of some horsewrangler broke it.

On the 17th of July leaving the main valley we proceeded up the Habel creek to move into the base camp for which to find a place was the task of small party of the previous day, while the rest indulged in dolce far niente on the sun swept slope near the Athabaska.

The ascent up the Habel creek was rather difficult with the whole outfitt of packhouses since there was no path which could have claimed to be a suitable packtrail. A few blazes here and there fallen trees rockbolders dense undergrow, fantastic on the ground creeping roots, a short level gravelbed and some bottomless muskegs were the merry varieties to drive the most composed horsehand into a frenetical state of mind and for a while could one easely imagine to belong to an advancing battery somewhere on the Somme.

Then the narrow valley opened and became comparatively level, walled on three sides in amphitheaterlike fashion by steep timbered slopes to find a visible conclusion of rocky precipices over which to the northside Mt Alberta leaped into misty appearance an image of sheer loftiness.

Here on the gentle slope between spruce and balsam trees

where a soft carpet of moss silenced every step grew in a few hours a small settlement of international character. The Japanese members of the party brought now into evidence what so far was kept in the secretness of their well packed and voluminous baggage, the outfitt of their own which was proof of their competence and prudence in selecting it, a big quadratic tent with centerpol allowed plenty room for their six colapsable bedsteds and some the same way colapsable tenttable. As beding they used a very expensiv kind of Camtchaca reindeer skin hairside out which kind they already tried out on previous bivacing experience in winter. Within short distances were put up a roomy dining tent which used to be the cooks and his helpers sleeping paradise too and a tent for three swiss climbing experts. A tent darkroom with complete developing and printing facilities for the photographer concluded the tent city near the spring of aboundant clear and cool water pouring from moss embeded holes and shortly to a stream uniting which was with its clearness a striking contrast to the Habelcreek which roared its mudy floods past the camp. The good clear water was unable to influence the biger stream and had its downfall after a weak atempt to be clean[1] The scarcety of gras in this side valley was the reason that Cliff and a horsewrangler had to leave with the bulk of the horse the campsite the same afternoon to camp in the mainvalley on their return tripp to Jasper to fetch a fresh load of supplies. In goat like fashion had the four remaining horses to earn their daily ration and the way they succeeded make believe that there are no limits for their ability to accommodate themselves to all circumstances of living, even so they had to grow wings. "A Goat" to sit on a rocky bench some hundred feet above camp, was announced the next morning by somebody and when the highpowered binoculars went into action the surprise that the goat got a horsehead was general in fact it was the good grey colt which possessed a marvelous flying ability according to my experience in the barnyard. After breakfast we spotet on the same shelf another white something which proved to be a regular Mountain goat and rather yellow of envy about the feat of a common tame horse. We considered then ways to shoot some bright green looking bunch of gras to the top of mount Alberta being

[1] End of page 10 in the original manuscript. A portion of the original may be missing here.—*Ed.*

confident that the colt would successfully tackle the climb to get the seducing food delikatessen, all we had to do hang to a rope to make the ascent. I do no more remember what made us abandon this scheme, probably that the horse could rightously claim the honor of the first ascent.

During the day separate parties scoutet the possible accessibility of Mt Alberta on different routes. The North and west side were corresponding to different observations as out of question. Mr. Yuko Maki with guide Fuhrer was the last party of the day to arrive back at the camp and because they intended to have a look at the East side, everybody was eager to receive their news.

What they had to tell about the beauty of the secenery their days work revealed them made us eager to enter ourselves too the world around the corner. Only fragmentary came the information which collected gave vivid picture of the difficulties we probably would encounter on the way to victory. We were told about some narrow ledges, of almost by blue air only suspended ice or snow-patches, of loose gravelslides which ended above vertical cliffs which cooled off their feet in cracked and torn glaciers. And that there was possibly no other path then by these infernal sounding contrivance just mentioned. But that first we would pass streams whispering of the beauty of blue glacier caves, would see mighty ice avalanches drop over a thousand feet cliff and land a big white cloud with thunder on the lower part slowly steeling down to heaps of crushed ice particles. We would have a rest in the shade of queer formed pinetrees which put up a hard struggle for existence against weather and the destructiv rage of avalanches and rockslides and still higher up where only freaks of trees can exist, there they said is a plateau of beautifull meadows and a brook of glacierwater winds itself through these little green paradise on the crest of darkgrey rocky mountains and frostbreathing icefields. From here it would be that we had to fight the yet unknown obstacles to encounter on the ultimate attempt on Mt Alberta. For this purpose a highcamp was intended on the foot of the southeast buttress, where the mountain at times bombarded the lovely flower speckled alp with rocks and dirt giving now the impression of imense big gravelheaps ready to be used to gravel a road of proportionally the same measure.

Since the next day was a Sunday it was proclaimed a day of

rest. It was an excellent opportunity to look in other peoples pot and I began to annoy the cook who unfortunately was not subject to the repose order. When I bombarded him with irrelevant questions, I grasped everything with my eyes to get a hold on and what I saw made the palate gasp for, Canned strawberries, rasperries, pears, cherries, pineapples and that pretty iced cake George just took out of the reflector (the magic baking device of any good trail outfitt) radiated a savoury heat no candystore could compete with such an atmosphere. But George kept jelously track of his sweet children and canned and candied fruits according to instructions not to privilege anybody. It was just as well so for me I developped a caveman appetite for dinner (to be satiated with danties of the twentieth century) the state of physical perception quoted the ideal one by any lad between seven and twenty years of age who partakes on the wedding banquet of a dear sister.

I wondered what George was scratching with a stick in a pile of smocking ashes, seemingly some treasurehunting with the result that he brought to daylight a black ironmortar with a lid on it. This roused my curiosity to a high degree always on the alert for some find of antique or ethnological value. Very obidiently I offered George to carry it to a place where nobody would disturb our invetigation of the contents of this strange deposit under the ground.

Imagine my disappointment to be laughed at revealing the true treasure of the so called Dutch Oven a perfectly baked loaf of bread in cheese form. I swore to revenge myself and I held strictly to that resolution to keep George every day busy baking dutch cheese pardon me, baking bread of cheese form in Dutch Ovens, I guess the dirtiest trick I could play on him; he hated baking and I liked the bread.

Finally we got our dinner, served on table solidly conected with the ground and filling the air with crushed pineapple scent, a new proof of the kitchen genius and his right hand. No use to bother the reader with envy he or she would inevitably experience if I told what an eatable sight was presented and disappeared in a dozen different abysses. In spite we were supposed after dinner to fix our climbing outfitt for the next day the corpses of sleeping and snoring clubmembers proceeded with the second part of the meal the beneficial transformation of it into mind and muscel energy

for the big advance. With changing wind direction smoke filled annoingly the atmosphere and the pure air proverbial to envelop natures exalted manifestation the mountains was pure proverbial and caused some coughing and much discussing about the eventualities of the forest fire to bring horror and dismal up to our secluded campsite. The danger was there yet we always conceived ourselves of its impossibility which we argued into reason, that the fire fighters were on their posts, that there were several sidevalleys which a even a flying fire scarecely would be able to cross and a hundert more reasons. Towards evening was a general mobilization to finish the combination of the climbing squads outfitt. Two small canvass tents light weight for the highcamp, pots and table wear, provisions mostly in canned form and of abundant variety, medicaments, scientific instruments, spare wearing apparel etc everything suitable for a several days absence from the base camp. The mountain boots underwent a rigorous inspection and edgenails were replaced where necessary. To the technical climbing outfitt belonged besides the ca. fifehundred feet of silk and manilla rope a number of iron pitons to be driven where natural grips were suspicious by there absence, in the rocks if possible without drilling a hole with a stone chisel but in case it would be necessary was a chisel added to the utensiles and a suitable hammer. An extra ice axe, whichs destinations was not clear to us three Swiss found its way to the many things our patient backs were to carry on the morrow to the highcamp.

George was busy until late into that night to bake a descent supply of bread and breakfast preparations were for him only the continuation of workingtime which began sunday morning. He was supposed to get even with lost sleep during our several day stay-away and therefore not entitled to be pitied.

Shaking hands with the three camp guards George the cook, Rey his everredy helper and McDonald the man for the horses, left we early monday morning for the estimated three days trip. The sun tuched with rosy fingers the highest culmination all around but we were still embrassed in the slowly wearing off nightly shadows when in single file we staggered over rockslides of a loose character along the highwater of Habel creek with fairly heavy packs. About half a mile behind the camp flattened the valley and the creek branched in a multitude of streams and soaked

the sandy ground to a degree we found not at all lovely to touch, yet we had somehow to get over it and cluching sounds of a hardworking mudpump, were effectivly reproduced inclusiv the muscular strain with every step.

A big mass of loose rock rose in front of our nose and developd was readily reconiced to be the terminal morain of habelglacier which filled the tremendously voluminous basin back the valley fed by almost unceasingly droping iceavalanches from the ice saddle between the Twins and Mt Stutfield over some thousand feet high perpendicular cliffs.

To get to the slope which was the means to reach the little plateau of meadows where the highcamp was figured to be, we had to cross the glacier tonge which was covered with a dirty film of grey, brown and indefinable colorcombination rock debris. Packed with the whole and heavyweight climbers furniture did we not pay much attention to the rockfragments here gathered from different corners framing the glacier, but occasionally other trips we discovered very interesting pieces of fossils and minerals.

To cross this lower part of the icefield which right there had the formation of a piece of storm whipped sea which suddenly became torpid, brought the first appeal to kep balance less a nasty fall may result. Of course we did not go on for ever without any stop and when we reached a feeble spring scrambling now in the hot fire of suns ardent arrows, without an exception hung our natural sucking device to every slowly the ground emerginng drop of water and found it exactly the best water anyone of the party tasted in his life.

It was also here that the trees grew fewer and were obviously acrobates in twisting their organs to fantastic shapes. On the ground were found pin cushions of subtile colour variety belonging to flower species cultivated in this high altitude by mother goat. I was led to this assumption when eleven goats were surprised in its vicinity dining on different berbs, yet never touching these lovaly flower cushions.

On timberline we enjoyed a prolonged siesta and everybodys eyes concentrated on the same object: Mt Alberta. In Vain try I to find a striking expression for that benumbing feeling of being totally at a loss of language. I looked at the Mountain, sinister, darkfaced, isolated. Its base emerging the motionless surf of a

glacier and its lofty summit adorned with a incandescent silver crown of eternal ice is elevated thousands of feet majestingly demanding unlimited submission and homage.

We were rather there to discover a possible weakness of this side then to indulge in pure subjectiv imagination and after the first awe inspiring meeting, I busily aimed my binoculars at the supposed point of attack, suggested by Henry Fuhrer. The revealation of benchs and couloirs, precipices and breakes through the glasses where without only smooth walls were perceptible, effected a marvelous soothing influence on the mind and, although the riddle was not yet solved in every particular spot, each and everyone showed a convincing feeling of confidence in the finally victory of tomorrow. From this point we moved horizontly over to the green basin on the South-east foot of Mt. Alberta were we errected in a beautiful seclusion our highcamp as last and most advanced campsite from which to attempt one of the most difficult climbs in the Canadian Rockies. To get rid of duties first, the two light tents were erected on a soft white and pink heather exuberantly growing amongst the last advanced pioniers of the coniferous species, the beding disposed of and then indulged in the finite contents of our sacks to appese a rebellious feelings of our stomachs. We confessed each one to himself that it certainly was a shame not to be able to forget at least for a while the earthly appeal of our bodies where nature erected with an immense expenditure of subtile beauty, overwhelming manifestations of three dimensional creation a stage in infinite harmony with the super performance of thundering iceavalanches in the everchanging light effect of the rolling day.

Our minds were climbing, but our souls could not escape the quaint atmosphere of the surrounding. We were not bothered the whole day by the smock menace of the previous day thank a favorable wind-direction, yet towards evening a hardly perceptible film hung in the air and enhanced the grandious view by giving the scenery a wholly mysterious touch. By a few terraces sloping off in a gentle grade picturesque covered with patches of heather, moss and sporadic grown trees of phantastic appearance little pools of watter like mirors embeded in grey rocky frames with artistic ornaments of mineral traces, separated from the almost sheer drop to the about fifteen hundred feet lower laying Glacier basin, our

view was unobstructed towards the "Twins-Stuttfield" mountain chain with their perpendicular walls, lofty spires and jewellery of hanging glaciers of tremendous dimensions.

What was nearer for those in the party who love the Swiss Mountains as one does the profoundest sweet secret, than to compare what their eyes and souls could here grasp with the memories of days in the nativ Alps. Each one had his own picture to compare with, but was it the view from the "Fuorcla Surley" over the valley of Roseg to the ice-armored haughty peaks of the Bernina Range or the worldwide known picture of Eiger, Moench and Jungfrau in the Bernese Oberland here was the equal in noble form and conveying the same message to nature's true sons (or doughters): Onward and upward!

In silence clad was the small camp when day presented on a carmin velvet cushion the world of our environ to the protection of the night hastening with dark shadows up the valleys and bleaching the light on the glaciers. Nine man tried to sleep, to accumulate in few hours left until the early hour of the morning, which would be the signal for the battle, as much as possible of the benefits of rest, but the mind was in advance occupied with difficult problems of climbing and did not when we staggered about half past two in the morning of July the 21st from the tents into the darkness had any one seen the sleepy expression on the faces he would not have been convinced by everybodys ascertion of having had a wonderful rest. A few dry pieces of wood flared up and tooke the chill out of the bodies then was the frugal breakfast prepared a cup or two of hot coffee some cheese and bread and butter were taken in a rather hurry to gain an early start. Very few words were exchanged during these preparations in the semi darkness of only faintly traceable dawn. The more conversations were exchanged with ones own self, questions of how and if about the experiences ahead seemed to hang in the frosty morning air. Half past three! Everybody ready?! Our rucksacks were yet voluminous although the whole camp outfit was left behind since we expected to be back anyhow even if late the same day, but still we carried along all the rope 500 feet, camera and scientific instruments, some food, special rockclimbing shoes with felt soles, sweater or extra jaquet in case the weather conditions should change higher up, gloves and some spare socks, a number of iron pitons, a hammer,

thermos bottles which unfortunately drained their contents in the sacks instead the throat and all the ice axes everybodys own and the spare one.

Nine pair of edgenailed boots clattered in to the campsite adjoining rockslide their noise dying away in the emptyness of yet unformed surroundings.

We made good progress the first hour where no difficulties slowed down the pace, darkness gave away to soft dawn embrassing the mountains and valleys like a mother presses the sweet fruit of love to her breast, a miraculous one-ness. But soon day hammered his ironfist cruelsome between the feast of passions lust and there they emerged to light: distinct formes, peak and valley, river and glacier, and life. For a moment stood we facinated in the sun, let his reys of golden aboundance rins the hair and cling caressing to the neck. God—how wonderful, and to be alive, to experience it oneself!

The grade became steeper and the lose rocks demanded steady attention and even then and with all caution collapsed many of these flimsy edifices by the slightest touch with a hollow rumbling noise. Then came the first bulwark which had to be attacked with combined skill and strength, a barriere of about ninety feet highth, solid rock and very few gripps which made it regarding its almost perpendicular feature a good and thrilling test climb for expected difficulties further on.

Guide Fuhrer tied a rope on his body and tackled as the first the problem which he solved in a splendid way advancing at times like a caterpillar and clinging to the sheer surface with seemingly defying properties concerning the laws of gravitation. A last stretch and a heavy pull brought him on the rim where a mass of loose rocks just waited for an excuse to rattle down but we were on the look out and no blood got spilled. With the aid of Henry Fuhrer's vigorous pull on the rope and oral advice where to find a suitable step and gripp in our endeavour to reach his higher attitude succeeded the rest of the party in comparitivily comfort except some symptoms of strangulation! The tents were beckoning far below as tiny white dots and a vacilating murmuring of some hidden waterfall crept now and then to our higth.

From this shelf on we proceeded in three parties each one connecting their member by a rope for mutual aid in case it was

needed on the many steep bluffs which now with short intervalls slowed down considerably the quick progress of the first morning hours.

The conversation was scanty and almost restricted to technical communications regarding the climb or relaying some signals to the following members, like "attention," "loose rock," "more rope," etc.

We entered now a belt of yellowish slate the general strata unfavorably tilted about extreme angle covered with a thick layer of coarse and foin fragments of rockslides of untraceable age. With every step disappeared our shoes almost up to the ankle in this very loose rubbish which by the mere touch took up a flowing motion down the steep grade and disappeared over precipices. Clashing sounds at short intervalls which grew fainter and fainter from depth after depth revealed sufficently what would happen if instead of stepping quickly one would become entangled in the moving slate debris.

This yellow slate layer of some hundred feet thickness upon which rests the real top massif of the mountain from distant points the appearance of an imense monument sculptured of dark grey rock and put on a pedestal of amber. But now that we struggled step by step against the effect of giving away ground, diminishing to a great extent the efficency of exerted power, we found only words of disapproval for using such a material of unsufficiant resistance as base for this mighty work of creation under extreme exposure to meterological adversities.

Like a fragment of a gigantic bowl opened a semi circus to our right, overtowered by frail spires of dark material conected with the main-arrete of Mt. Alberta by perpendicular sheets of almost black rock. Patches of snow on underlying ice were dazzling ornaments in the upper part of the circus for which we headed in rising spiral-line. Those glittering patches had to be tackled with delicate understanding, since the ice was of a very brittle quality and a hit with the iceaxt not given in exactly the right (angle) and well chosen strength would have spoiled many a good step which after a short time lead the whole party comfrotably over these otherwise unpleasant intersections to a much broken ridge or buttress on which stability the safety of the southeast corner of Mt Alberta is depending.

Beyond the butress was the eye surprised by an impressive and instructive sight upon the east face of the Mountain in a close-up. Sheer walls upon sheer walls laced together with silverlined mouldings rose from unseen depth overtook us on the buttress and disappeared to our eager glances high up in the brownish smocky mist which again advanced from the forest fire devasted lower valley.

Without remarkable difficulties was the buttress ascendet to the top to find there that a deep crack both sides lined by smooth rocks separated us from the seemingly natural continuation the crack bottom covered with hard ice. We retreated to a point which allowed us to reach the bottom of the crack over the steep northside of the buttress in an almost horizontal way by the aid of scanty foot-and-handholds which proved to be of rather loose character. For safety to cross the smooth ice were quickly a few step cut by the expert Fuhrer and then came a few note worthy climbing pulls on the opposite wall. Only some rather imaginary gripps which had besides the disadvantage to be unpleasantly far apart were the means to surcome the obstruction. Again Fuhrer as the leading guide gave splendid proof of his reputation and for the rest of us was it quite an easy matter to get on the top of this narrow extension of the lowest bench of a system of several which lead around the foot of the last raise of Mt Alberta like a stairway with badly worn out steps. The next half hour brought us almost level to the place which held the key to the possibilities for attaking the steepest part and eventual success. So far were we unable to find out a inviting mark in the appearently unbroken and practically vertical wall that girdled to a considerable highth right here the higher rest of the mountain.

Luckily for us we discovered a very narrow band which wound itself slowly rising along the dark sheer wall towards a couloir which lower end emptied right there into nothingness, but the sides upwards seemed to permit a pursuit.

To gain said band, we climbed now with utmost care from bench to bench over lose gravel on icy ground to the dark rockformation of the final errection. Until now everybody was covinced that this rock of smocked shade would be of a solid construction and allow a most enjoyable climb with plenty of trustworthy grips. Too bad, the first acquaintancy busted the last glamour of hope;

every gripp had the tendency to remain in the hand a piece of sharp edged gravel. This discovery shattered too the assumption that if we eventually would succeed in the climb, we would be back in highcamp the same evening, since the loose rockformation increased the difficulties manyfold and therefor was not to think of a speedy solution of the undertaking.

It released a quaint feeling to creep along the band with about no holds for the hands to keep the body from overbalancing where excrescences in the wall almost forced one out into the empty space. One after one moved at the time so far the rope allowed and the fact that the rope was not extensible was the reason to ackward positions if one had to stick on a place where wings had better taken the place of arms. The Japanese tourists of lesser bodily proportions then we three Swiss had on this particular traverse some advantage as regarding the space at our disposal, yet we Europeans were used to similar positions and aided by climbing qualifications not to be had a priori.

Right here gave the Niponese the test for fitedness mentally and physically, any other but mentally very well balanced man who is not a born or habitual climber would have had difficulty to face those airy sights finding literally only rest for the toe nails and clasping with the tips of the fingers on a uncertain hold, is able to look down and listen to the thud of rocks thousands of feet almost vertically below, yet they did it with the impression of being their dayly work.

At the end of the band of apprx. two hundred yards length were several so called gendarmes, rocky excrescences of limited highth but often extrem difficulties to overcme according to their spire like appearance. We had the pleasure to tackle one after the other as the only opportunity to get any further up hills. To the right side was a deep ravine, smoothly polished by meltwatter of snow and ice and at noontime shot a stream down mixed with rocks and dirt.

I mentioned befor the loose character of the mountain and now it bombarded us quite often with a shower of rocks of different size.

We tried as much as possible to avoid the attacks by leaning close to the wall and succeeded splendidly so far except that several

rucksacks got hit and with the said effect to break the two only Thermo bottles with warm contents.

Beliving these gendarmes would be about the extreme limits of climbing difficulties were we surprised to find right after them an overhang in the structur which to the right ended in a straight drop of many htundred feet and to the left side other qualities of inaccessability that it deepended wholly on the overcoming of the overhand on its least highth about twelve to feefteen feet, if we were to go any further or to declare us defeated right then and there.

The prospects were rather discouraging, the ledge we stood on was narrow and led around a sharp cliff to the abys on the righthand, to the left it run out into a few grips of loose rock after a short distance. Right underneath were the gendarmes a doutful comparison of restfulness for the eye that was searching for some substantial means from where to give aid to Fuhrer in his attempt to reach the upper part of the balcony and to be able to choke an eventual fall with the aid of the rope from a safe standpoint. The determination to succeed was great enough to convince us that both points under question were on hand, well later on we agreed they were really only of problematical value, but anyhow they had not to stand the extreme test and that was just the lucky thing. After a short counsel of war, were the forces distributed to their places. Mr. Hayakawa and Hans Kohler unroped to be used as a human ladder. Fuhrer was to climb first and put on for this keen test his special rock climbing shoes to make use in the best way of any unevenness and plenty of rope ready to not to hamper him in the advancement. On the very edge of the bottomless abyss Mr. Hayakawa stood facing the wall on the narrow ledge, then Kohler mounted him and ankered his legs around his horses shoulders and tried to catch with his hand a firm gripp on a not too solid hold; after this Fuhrer climbed with the push of someone over both and could just reach the borde of the exposed balcony. Fortunately was he sceptical to gripps he was feeling and he begann a thoroughly cleaning anxiously watched by the rest who gave rope a little by little as he proceeded and ankering ourselves to imaginary holds in case that terrible thing should happen none dare to think of.

At least gave the tension away to the joy when Fuhrer disappeared above the precipice and he declared from unseen spaces better conditions ahead. The progress of the rest to get up was rather slow since each one hung for an instance in the air until he was able to grasp some rocks which mostly just yielded with the result of experiencing a choking sensation conectet with the dropping back into airy spaces. Although it was neither easy nor harmless what followed after this performance of alpinistic accrobatic, the grade was quite agreeable to the body's craving to be at intervalls at ease in a straight up human like position. The smooth wall of rejecting appearance accompanied us still on the opposite side of the polished watercourse, but where we fought our way seemed the mad resistence against our advance be broken. Shelf upon shelf we gained in careful clinging to the approved gripps and feeling with the toes for some recess often guided by a voice blow and above to where the desirable holds could be found, the steepness of the ground made a complete adhesion to it imperativ and left therefore no space to look through between the body and the rock, to discover a suitable place for the feet.

It was two o'clock, when a narrow band allowed us to reach the rill. One after the other took opportunity to quench the thirst and have a bite, and to take a deep breath on the comparativily lixurious abode of a few square feet, leaning to an overhanging formation of the usual loose condition. Being safe at least for a few minutes from almost unceasingly falling stones, which were loosened now by water sprinkling over the rocks, we enjoyed a very welcome short rest.

To proceed over the wall immediately overhead seemed not very negociable, so Fuhrer and Kohler tried to discover a solution on the other side of the ravine, but only a few moments of scouting around over there convinced them of the uselessness of any further attempt.

That left but a trial to the southerly extension of our band and it had the satisfactorily result of finding a much broken ledge by which we overcame this latest and nasty obstacle in an oblique direction that brought us above the overhanging part back to the water rill.

From here we got a good impression what the country looked alike between us and the main arrete which extended slowly rising

to the top on its north end. A sheer bluff barricaded a further proceeding this side's the watercourse but the other shore presented a passable route to the top of a precipice the lower end of partly sharp edged ridge which extended steeply down from the vertex. Farther up was the rib almost submerged under snow and flattened out into a wholly snowcovered iceslope.

This prospect was really encouraging, specially that we believed the top ridge would not offer any worth mentioning difficulties.

The sun was in spite of smocky mist quite effectiv, snow and ice melted and loosened more and more rocks taking all attention to avoid their kicking power. Just in attempting to ridge the top of the arrete on the right side of the ravine, bombarded a volley of different sized gravel the middle party choosing Mr. Hashimoto as victim, hitting his face. He used to wear white gloves for the climb and when he passed one hand over his face holding still with the other to a gripp. He turned his face to the followers and with a dramatical geste showing the blood soiled around declared solemnly "The first blood" and forgetting the ernest of the situation everybody burst into a hearty laugh.

By and by we came to the snow, Fuhrer put on again his edgenailed mountaineering shoes, because on snow the felt-soled rock climbing shoes were practically useless. Where there was not enough snow on the ice to tramp a safe step, the ice axe had to do its part and cut under skilled guiding the dozen holes which lead us finally up to the southerly and lower end of the top arrete, at four PM.

With a sigh of relief accepted everybody again a rest under thinkable most comfortable conditions, the ridge being several feet wide and big plates of slate offering splendid sitting opportunities.

And then tried our eyes to find the bottom on the west side of the mountain where perpendicular cliffs drop thousands of feet to the yellow foundation. Being used to airy sights still it was a ghastly revealation under the prevailing conditions. The whole world was veiled in a brown smocky mist not allowing one glance at other royalties in the environ like Mt Columbia, the Twins or the nearest one Mt Woolley.

We had the feeling of beeing utterly isolated of the entire world being cast on a island of desolation where stormwinds howled

around queer formed spires and blew pieces of snow and little rocks through the air and whining voices fell and rose in bottomless chimneys. Almost horizontal in the West hung a red disc of huge dimensions, the sun slowly descending in the liquid like mist as were it a ball of pure carmin falling to the bottom of a strange brown ocean. By and by found our eyes a fascinating hold, far, far down on the very floor of the valley, the Athabasca, transformed by a strange accident into a spiderweb of a hundred red-golden threads, lacing both shores of dreambound forests.

Only timidly dared one break the period of enthralling silence which expressed the reverential devotion for nature's ways to speak to man's soul.

After a quarter of an hours recreation did we continue our climb on or along the arrete which lead the shortest way to the top.

We had to experience a number of disappointments since we regarded the ridge according the impression we got from far away as an unbroken line of a soft grade and we found now a composition of a multitude of climbing problems. Gendarms had to be overcome with skill and patience either by traversing or climbing over them as each instance suggested as the best solving. Narrow parts in the arrete were dealth with in horseriding fashion of the most spectacular features, the looks on both sides droping thousands of feet before gaining a rest in the thrilling flight. Then again were cuts in the ridge of considerable depth, ice-edged intersection with added a farther slowup to the already aboundant defering qualities the Mountain put with a tenacity on our rod. Many times were we fooled, beliving an appearing elevation as the ultimate top, since we had no further view only to find the ridge was extending itself on the other side to a still higher point.

All of a sudden oppened a big gap before us an elegantly lined ice-edge steeply leading to the bottom and on the other side unmistakably the arrete rising without any further nasty caprices to the—top. The spare silk ropes once more had to do their duty, taking them doubled, puting above the ice around a big rock for suspension, Fuhrer let himself down to the bottom and cut quickly the steps for descent of the rest, coming uphills as being far easier than the contrary.

The wind blew strongly, yet Fuhrer was not aware that the

wind tooke right there his hat first up in the air and played kind of a game with it in airy spaces until tired and then droped to glacier fife thousand feet below.

A not to be named emotion held us in its gripp so near the destination, the aim of a careful arranged expedition by these determined lovers of nature from the isle of the rising sun, and so from the gap up where no difficulties deferred any wanted gate we continued despite the almost sixteen hours of hard work, up the broad and gentlesloped rest of the way in enthusiasme showing speed to arrive literally together on the

Top of Mt. Alberta, 11,874 ft.

at half past seven PM. 16 hours after we left the highcamp on timberline about 6800 ft above sea-level.

Mutual we shaked hands and Mr. Yuko Maki extended his sincere appreciation to Fuhrer for the excellent leadership and his thanks to all of us Swiss for the aid to which he said the party owes this wonderful achievment of alpinism.[2]

POSTSCRIPT

When Fred Ayres and the writer made the next ascent of the mountain nearly a quarter of a century after the Japanese, we followed in general much the same route as they had worked out. Apparently, however, we turned directly upward at a point where our predecessors had continued their traverse northwards. We found much more snow on the mountain, with the long narrow summit ridge heavily corniced and the summit cairn nearly buried. In the cairn was found the "silver" ice-axe of Count (formerly Marquis) Hosokawa—now hanging on the wall of the American Alpine Club—and the note left by the Japanese party.

Upon returning to Jasper we received an enthusiastic greeting from Joe Weiss, who dug out the typewritten manuscript left with him many years before by Weber. I learned that Fuhrer, Kohler, and Weber had all returned to Switzerland. Soon after our own return home we began a lively correspondence with

[2] End of page 28 in the original manuscript. A portion of the original may be missing here.—*Ed.*

Weber and found that he had married and now holds a responsible position with the telephone company. When my parents visited with him one day in Chur four years ago, they found him as charming and debonair as might be expected. Periodically, he relives his foot-loose days in Canada by re-reading Thorington's *Glittering Mountains* or by telling stories to his marveling friends and neighbors of his life while guiding and trapping in the mountain wilderness.

Since my uncle, then Capt. B. G. Oberlin, was in Tokyo at the time, I wrote him to see whether any contact could be made with the Japanese climbers and, before long, had a reply that he had located the four who were still living. A flourishing correspondence soon grew up, with exchanges of photographs, journals, newspapers, and books until Fred and I had accumulated several boxes full. The Japanese sent each of us an inscribed *nata,* a sort of machete, and we reciprocated with a silver-plated ice-axe inscribed "Mt. Alberta—1925—JAC," in remembrance of the legend of the silver ice-axe found by us in the summit cairn.

Some further details about the climb were learned from Maki. He described the three-man *courte echelle* as follows, "Fuhrer ascended onto Hayakawa's shoulders while Kohler held his hand and I steadied his feet. Just when it seemed Fuhrer was about to crawl over the top, the rock appeared to give away. Fuhrer held the rock with his chest and then put it back in place." Every member of the party was struck at one time or another by falling stones. At 7:30 P.M., when they finally reached the summit, Maki writes, "Not a word was spoken, but doubtless everyone felt victorious. There were no banzais or bravos." In the summit cairn which they erected he placed a note thanking the guides, listing the members of the party, and stating, "We came from Japan so far, called by this charming great mountain." After spending the night on the summit ridge, the party climbed slowly down, rappeling from pitons and taking 15 hours to regain their high camp.

Count Hosokawa invited my aunt and uncle and the four survivors of the original Japanese climbing party to dinner, and all had a lovely time.

From the legend of the silver ice-axe we had gained new friends on both sides of the globe—a fitting sequel to the adventure told with such gaiety and goodwill by Jean Weber, when Japanese,

Swiss, and Canadians rode through the fire toward the towering black walls of Mount Alberta.

J. C. O.

Brief Bibliography

Ayres, F. D., "The Second Ascent of Mt. Alberta," *Canadian Alpine Journal,* 1949, Vol. 32, p. 1.

Hickson, J. W. A., *Appalachia,* 1926, Vol. 16, p. 245.

Oberlin, J. C., "Alberta and the Silver Ice-axe," *American Alpine Journal,* 1949, p. 124.

Palmer, H., "Travel and Ascents Among the Highest Canadian Rockies," pp. 259-260.

Smythe, F. S., *Climbs in the Canadian Rockies,* Hodder and Stoughton, 1950, London, Chap VI, p. 67.

Maps

ABC 23
Jasper Park, south sheet

An American at Chamonix in 1754

G. R. de Beer

F.R.S., A.C., S.A.C., Hon. D.-ès-L. (Lausanne),
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THE earliest account known of an excursion to Chamonix is also the first in English,[1] describing the visit of William Windham, Richard Pococke, and their friends in 1741. The next description in English so far discovered is that by William Benson Earle[2] in 1767, although the intervening 26 years must have seen many English-speaking visitors to Chamonix. There is evidence that this was so, because the duc de la Rochefoucauld,[3] writing in 1762, said that ever since 1741 all the "Anglais" who came to Geneva made the journey to Chamonix. The names of three of these were known in 1754, and as one of them was American their visit was all the more interesting because up till now the earliest Americans known to have travelled in the Alps were John Morgan[4] and Samuel Powel, of Philadelphia, in 1764. The record is therefore pushed back by ten years.

There is no account in English of the visit to Chamonix in 1754, and, indeed, nothing would have been known of it at all had it not been for a letter from Jean-Jacques Rousseau to Jacques-François De Luc of Geneva, father of the well-known alpine pioneers Jean-André De Luc and his brother Guillaume-Antoine. At the end of this letter a note was subsequently added by the recipient's grandson, Jean-André De Luc junior, son of Guillaume-Antoine. The letter and the note are as follows:-

[1] *An Acount of the Glaciers or Ice Alps in Savoy . . .* London, 1744.

[2] Earle's account of his journey to Chamonix in 1767 is published in the current number of the *Alpine Journal.*

[3] "Relation inédite d'un voyage aux Glacières de Savoie fait en 1762 par un voyageur français," publiée par L. Raulet, *Annuaire du Club Alpin Français,* 20, 1894.

[4] *The Journal of Dr. John Morgan of Philadelphia from the City of Rome to the City of London 1764.* Printed for private circulation by B. Lippincott Company, Philadelphia, 1907.

[Jean-Jacques Rousseau to Jacques-François De Luc][5]

"A Paris le 28 Xbre 1754.

". . . J'ai pensé à une chose qui pourrait faire plaisir à Mrs vos fils et qui du moins leur feroit un très grand honneur, c'est de donner dans l'Encyclopédie une relation de leur voyage des glaciéres [*sic*] et leurs observations. J'en ai déja parlé aux Editeurs et ils l'employeront avec plaisir si cela vous convient. J'ai pensé que c'étoit une occasion heureuse et qui peut être ne se retrouvera jamais d'immortaliser leur nom et de le faire figurer à côté de ceux des plus grands hommes de l'Europe . . . "

It was always known that Rousseau interested himself in the Alps, where in his view the golden age still persisted, but he appears here in a new light as a promoter of the literature of alpine travel. The most important part of this document, however, is the note by Jean-André De Luc junior:[6]

"C'est dommage que les frères De Luc n'aient pas profité de l'office que leur faisait Rousseau par sa lettre du 28 Xbre 1754, car la relation de leur voyage aux Glacières n'a jamais été publiée et l'ouvrage intitulé *Recherches sur les modifications de l'atmosphère,* où cette relation aurait pû être insérée, ne parut qu'en 1772. Voici ce qu'un des frères De Luc raconte dans un journal où il transcrivait les principaux évènements de sa famille.—'Le 12 août 1754, nous avons été aux *Glacières,* mon frère et moi, avec trois étrangers: M. Jefferyes, Irlandais, M. Machinen, né en Amérique de parents écossais, & M. Forbes, cape écossais. Nous vîmes les glacières de la Vallée de Chamouny, située au pied du Mont Blanc, partie de toute la châîne des Alpes la plus élevée. Nous repartîmes le 15 de la Vallée de Chamouny, & pour diversifier notre promenade, nous traversâmes en Valais par Valorsine et le mont de la Tête Noire. De Martigny, où nous descendîmes, nous fûmes à Bex. Le 19 nous fûmes de retour à Genève. Nous avons fait une relation détaillée de

[5] *Correspondance Générale de J.-J. Rousseau.* Edition Théophile Dufour, Paris, 1924, to 2, p. 141. For Morgan's crossing of the Mont Cenis pass in 1764 see *A. A. J.* IV, p. 460. Peter Irving, brother of Washington Irving, visited Chamonix in 1807 and was the first American to mention Mont Blanc. *Loc. cit.,* p. 465.

[6] Genève: Bibliothèque Publique et Universitaire, Ms. fr. 236: Lettres de Rousseau, f. 27. I owe the transcription of this manuscript to Dr. Bernard Gagnebin, Conservateur des Manuscripts, to whom my best thanks are due.

cette curieuse et pènible promenade, pendant laquelle nous fûmes favorisés du plus beau temps du Monde.'"

It is greatly to be hoped that this "relation détailée" may one day be found, for in addition to the information which it must contain about Chamonix, it was the first account of a journey from Chamonix to Martigny by the Tête Noire. Meanwhile, some preliminary work may be done on the information already to hand, and now that the names of the three men are known, an attempt may be made to identify them.

With regard to the Irishman, Mr. Jefferyes, the Register of the Academy of Geneva[7] contains for that same year 1754 an entry which without extravagance of hypothesis can be ascribed to the same man. It is his signature:- "St John Jefferys 1754." It would be pleasant if he could be identified with the Dr. John Jeffries[8] who flew in a balloon with M. Blanchard from England to France on 7 January 1785, thereby showing a liking for high altitudes which would be fitting for one of the earliest visitors to the foot of Mont Blanc; but this is the merest fancy.

Captain Forbes is not referred to in any known document at Geneva, but the British *Army List* for 1775 presumably contains his name. Three officers are mentioned of the name of Forbes who were promoted Captain before 12 August 1754. Captain William Forbes dated his promotion in the 46th Foot from 11 February 1748/9; Captain Hugh Forbes dated his in the Royal Horse Guards from 24 July 1745; and there was a Captain James Forbes on half-pay, late of Churchill's Regiment which was disbanded in November 1748 after the Peace of Aix la Chapelle. Captain Charles Forbes of the 36th Foot who only dated his promotion from 13 September 1754 must presumably be excluded from consideration. As Great Britain was at peace in 1754, the officers serving in their regiments might have traveled on the continent on leave just as easily as the officer on half-pay. There is therefore nothing to show which was the one who went to Chamonix.

As for Mr. Machinen, born in America of Scottish parents, the only conjecture which can so far be made about him is that his

[7] Quoted by Adrien Chopard: "Genève et les Anglais," *Bulletin de la Société d'Histoire et d'Archéologie de Genève*, t. 7, 1940, p. 267.

[8] British Museum: General Catalogue of Printed Books.

name was probably Mackinnon, and it is greatly to be hoped that his family and he may be identified.

It remains to consider the journey on which they went. In his reply to Rousseau, Jacques-François De Luc explained the reasons why his sons did not avail themselves of the kind offer of the editors to print an account of their journey to Chamonix in the *Encyclopédie*:-

[Jacques-François De Luc to Jean-Jacques Rousseau][9]

"[Genève] 20e Janvier 1755

" . . . A l'égard de l'honeur que vôtre amitié pour mes fils voudroit leur faire dans l'Encyclopédie, Je ne vois pas comment ils pourront s'en prèvaloir. La relation du Voyage des Glacieres ne fait que partie de l'ouvrage auquel ils travaillent, et pour lequel ils l'ont fait. C'est un tout par le moyen duquel ils établissent une Théorie de la Terre conforme à la Genèse, et fondèe sur la plus saine phisique. Ils se proposent de la mettre au jour, ainsi M^rs^ les Editeurs de l'Encyclopédie pourront en tirer ce qu'ils jugeront à propos . . . . "

The major work here referred to was the *Lettres physiques et morales sur l'histoire de la terre et de l'homme*,[10] which, however, contains no account of the journey to Chamonix in 1754. But there is a very brief account of it in Jean-André De Luc's work *Recherches sur les modifications de l'atmosphére* [11] which must be quoted because of the importance of the scientific results to which this excursion led:-

" . . . En l'année 1754 je fis avec mon frère un voyage à la partie des Alpes la plus voisine de Genève, pour examiner de près ces masses énormes qu'il est si important de bien connoître pour établir une bonne Théorie de nôtre Globe. C'etoit là nôtre prémier but, dont nous nous occupions depuis longtemps; & qui est si vaste, que malgré une étude soutenuë & des découvertes plus étendues que nous n'avions espéré d'abord, it ne nous a pas encore été possible de mettre la dernière main à cet Ouvrage. La hauteur d'une partie des Alpes est telle, que les plus grandes ardeurs de l'Eté ne

[9] *Correspondance Générale de J.-J. Rousseau*, Paris, 1924, t. 2, p. 143.
[10] La Haye, 1779.
[11] Genève, 1772, t. 1, p. 185.

peuvent fondre qu'une petite partie des prodigieux amas de glace qu'elles renferment. Il étoit intéressant pour nous, de connoître à quelle hauteur nous parvenir, & le seul moyen que nous eussions pour cela étoit le Baromètre. Nous savions en général que plusieurs physiciens l'avoient employé; mais n'ayant pas examiné de bien près cette matière, nous pensions qu'il suffisoit d'avoir un de ces instruments, pour juger par son moyen de l'élévation à laquelle nous serions montés.

" . . . Nous portâmes donc un Baromètre, nous fîmes des observations, & à notre retour nous en cherchâmes les conséquences dans les Auteurs qui avoient travaillé sur cette matière. Mais en les comparant, nous trouvâmes entr'eux tant de différence, que ne sachant à quelle méthode nous devions nous arrêter, nous ne pûmes tirer aucun usage de nos expériences pour connoître la hauteur des lieux où nous les avions faites.

" . . . Je résolus donc de fermer les Livres & de consulter la Nature seule . . . . "

There is another source of information which contains more details about the places on the journey where barometric observations were made, and as the three English-speaking friends must have been present, it is worth quoting an extract from the account which Jean-André De Luc furnished to the duc de la Rochefoucauld[12] in 1762:-

"J'ai fait les observations suivantes au mois d'août 1754. Un baromètre semblable au mien, observé à Genève pendant le même temps, fut constamment à 27 pouces 1 ligne ½; il était élevé de 5 toises au-dessus du niveau du lac.

A la Bonneville	26	pouces	10	lignes	½
A Cluse	26	"	9	"	½
A Salenches	26	"	6	"	5/6
A Montcoir,[13] village dans la vallée de Chamouny	25	"	3	"	½
Sur le penchant d'une montagne qui fait face au Mont Blanc [le Brévent]	23	"	3	"	½

"Je montai avec mon frère sur cette montagne pour mieux examiner le Mont-Blanc; la crainte de nous trouver de nuit dans un

[12] Reference in footnote 3, pp. 489-490.
[13] Montquart.

terrain très scabreux nous empêcha de monter plus haut. Nous avions porté avec nous un niveau grossier fabriqué à la hâte à Montcoir; nous l'employâmes à déterminer le point du Mont Blanc qui correspondait horizontalement avec le lieu où nous étions parvenus et où nous fîmes la dernière observation du baromètre. Nous prîmes ce point de niveau, mon frère et moi, sans nous communiquer; nous estimâmes ainsi séparément la proportion qu'il y avait entre la portion du Mont Blanc supérieure à ce point, et celle qui était au-dessous, à compter depuis le niveau de Montcoir, et nous nous accordâmes à juger que la portion inférieure était le quart de la supérieure. Nous estimâmes encore par le moyen du niveau que le lieu où nous étions était un peu plus bas que le glacier des Bois. Nôtre baromètre se rompit sur cette montagne et nos observations dans ce genre cessèrent là. Cette catastrophe fit naître chez moi l'idée d'un baromètre à l'abri de pareil accident, et la difficulté que je trouvai dans ce temps-là à concilier les méthodes de divers physiciens pour mesurer les hauteurs par l'abaissement du mercure dans le baromètre a été l'occasion de mes recherches sur ce sujet."

From these details it is clear that the De Lucs' journey to Chamonix in 1754 was of the greatest importance in the history of scientific altimetry in the Alps. It stimulated Jean-André to undertake those researches which laid the basis for all future progress in the geography and cartography of the Alps. Before this, the only estimates for the elevation above sea-level of the Lake of Geneva were built (it is impossible to say based) on extremely crude comparisons of the slope and length of the Loire and the Rhone, from which Jean-Christophe Fatio de Duillier[14] obtained a figure of about 830 meters which was twice too high. Estimates of the heights of the summits of the Alps were therefore quite useless before De Luc drove a barometric traverse from the Lake of Geneva to the Mediterranean in 1757 and obtained a value of about 360 meters which compares favourably with that of 372 meters accepted today. It is of the greatest interest to know that the Irishman Jefferys, the Scotsman Forbes, and the American Mackinnon were present with the De Lucs on that memorable excursion to Chamonix in 1754, and it is greatly to be hoped that more may be discovered about it and them.

[14] G. R. de Beer: "Les Fatio de Duillier et les Alpes," *Les Alpes*, Berne, t. 24, 1948.

Mount Hunter Via the West Ridge, a Proposed Ascent

BRADFORD WASHBURN

MOUNT HUNTER[1] is the highest unclimbed peak in the Alaska Range and doubtless the most outstanding virgin peak in Alaska. No party has ever attempted to climb Hunter, and I do not know of any group which had seriously developed plans to attack it before 1953.

Unlike many of Alaska's great peaks, there is no easy route up the mountain. Its twin summits rise to altitudes of 14,580 feet (North Peak) and 13,970 feet (South Peak), two miles apart and at opposite extremes of a 13,000-foot ice plateau. This extraordinary plateau varies in width from half to three-quarters of a mile, with a smaller central peak (13,470 ft.) dividing it roughly in half. Its edges are an almost unbroken fringe of spectacular ice cliffs from 200 to 400 feet thick, cascading avalanches down an equally savage barrier of granite cliffs which range from 4000 to 5000 feet in height.

The ascent of all three peaks would be relatively easy from the surface of the plateau. The ridges which lead directly without intersecting the plateau to the summits of the North and South peaks from the east, southeast, and south are extremely steep, rugged and difficult. The Tokositna[1] Glacier, which is the only practical means of access to the eastern face of Hunter and the beginning of the east and southeast ridges, is so rough and broken up itself that the approach alone to this side of the mountain would be a major undertaking.

After several flights near and over the peak, I am reasonably convinced that the one practical route of ascent is via the great ridge which drops nearly 8000 feet from the North Peak to the

[1] Mount Hunter was originally named by Robert Dunn (for his aunt, Anna F. Hunter of Newport, R. I.) during Dr. Cook's expedition to Mount McKinley in 1903, when the party was at its 10,800-foot camp on the W. buttress of the N. Peak of McKinley. The Government later surveyed the present Mount Hunter which is 9 miles S.E. of the 12,515-foot snow dome originally named by Dunn. This error in nomenclature was not discovered till 1950. The original Mount Hunter has no name at present. Dunn could not possibly have seen the present Mount Hunter from his camp on McKinley!

surface of the vast central amphitheatre of Kahiltna Glacier. But, despite the fact that this ridge appears to be climbable, it is certain to present some real difficulties and, in two or three spots, problems of a really high technical order. Mount Hunter should not be attempted by any but a team of climbers with extended practical experience on both steep ice and rock, as well as a capacity for glacier camping.

The Approach:

The North Peak of Mount Hunter lies 9 miles S. of Mount McKinley and 54 miles northwest of Talkeetna.[2] The pronged lower end of the west ridge is 35 miles from the snout of Kahiltna Glacier and 38 miles by air from the small gravel landing field at the S. end of Chelatna Lake—the nearest airport. Although there is no doubt that, if landed on one of the broad gravel bars at its end, a patient and powerful party might relay supplies all the way up the Kahiltna, the best way to get both into and out from Mount Hunter would be by plane. Hunter most assuredly would have been attempted and climbed long since if it had not been for its extreme inaccessibility. The best map on which to study this problem is the new 1951 Talkeetna sheet (1:250,000) of the Alaska Reconnaissance Topographic Series (U.S.G.S.).

The ascent of the Kahiltna Glacier on foot would require a very careful study of the vertical photographs of the area recently taken (July 1952) by the U.S. Air Force, in order to work out a practical route. Suffice it to say that to reach even its snout would require a 20-mile walk from the nearest road (no trail), and that the problem of relaying sufficient supplies up the glacier by back-packing would be a staggering project. If a landing were made at its end (an easy 38-mile flight from Talkeetna), an experienced group operating on a shoestring and with unusually good snow conditions might make a dash up the glacier, in the hope of receiving a large air drop at the base of Hunter. But even a brief spell of bad weather might turn such a plan into a serious débacle.

The ideal time of year for the climb and the best method of approach would be to fly in to Hunter early in April from Talkeetna in a ski-equipped plane and land right at the foot of the climbing

[1] Spelling (Tokichitna) incorrect on recent maps.
[2] Talkeetna is 78 miles N. of Anchorage.

ridge. This flight is only 75 miles each way, and the landing area at the base of Hunter is incredibly large and level—big enough to permit a safe landing even by a big twin-motored transport (C-47) on skis. Air support and airplane landings are not prohibited in this area, as it is just outside the S. boundary of Mount McKinley National Park (see photo opp. page 480). The climb would have to be completed in April and the return flight made before the first of May in order to assure a safe ski-landing in the lowlands. Needless to say, if the climb has to be made during the summer months, an airplane equipped with ski-wheels or a helicopter would provide the only practical ways of flying in.

A combination of the two modes of approach would be to arrange to have a large cache of supplies flown from Talkeetna to the base of the mountain in April by a local pilot and then cached there pending arrival on foot by the party several weeks later. A second cache could also be set up this way, at the same time, in order to simplify the speculative and lengthy ascent or descent of Kahiltna Glacier on foot later in the summer.

This lengthy and complex discussion about the approach may be summed up briefly by saying that unless you have at your disposal a helicopter or airplane equipped with ski-wheels, or unless you can make the climb in the early spring, the very approach to Mount Hunter will be a major project which should be given extremely careful consideration before it is attempted.

The Climb:

The ascent of Mount Hunter's west ridge, as can easily be seen from a careful study of the illustrations, is divided into two parts. The first section, rising from the level 6700-foot landing area to the eastern end of the long 10,800-foot shoulder, is three miles long and presents the major climbing difficulties. The landing spot is 4 miles from the top of the N. Peak, as the crow flies, and the entire climbing route is 5.25 miles long.

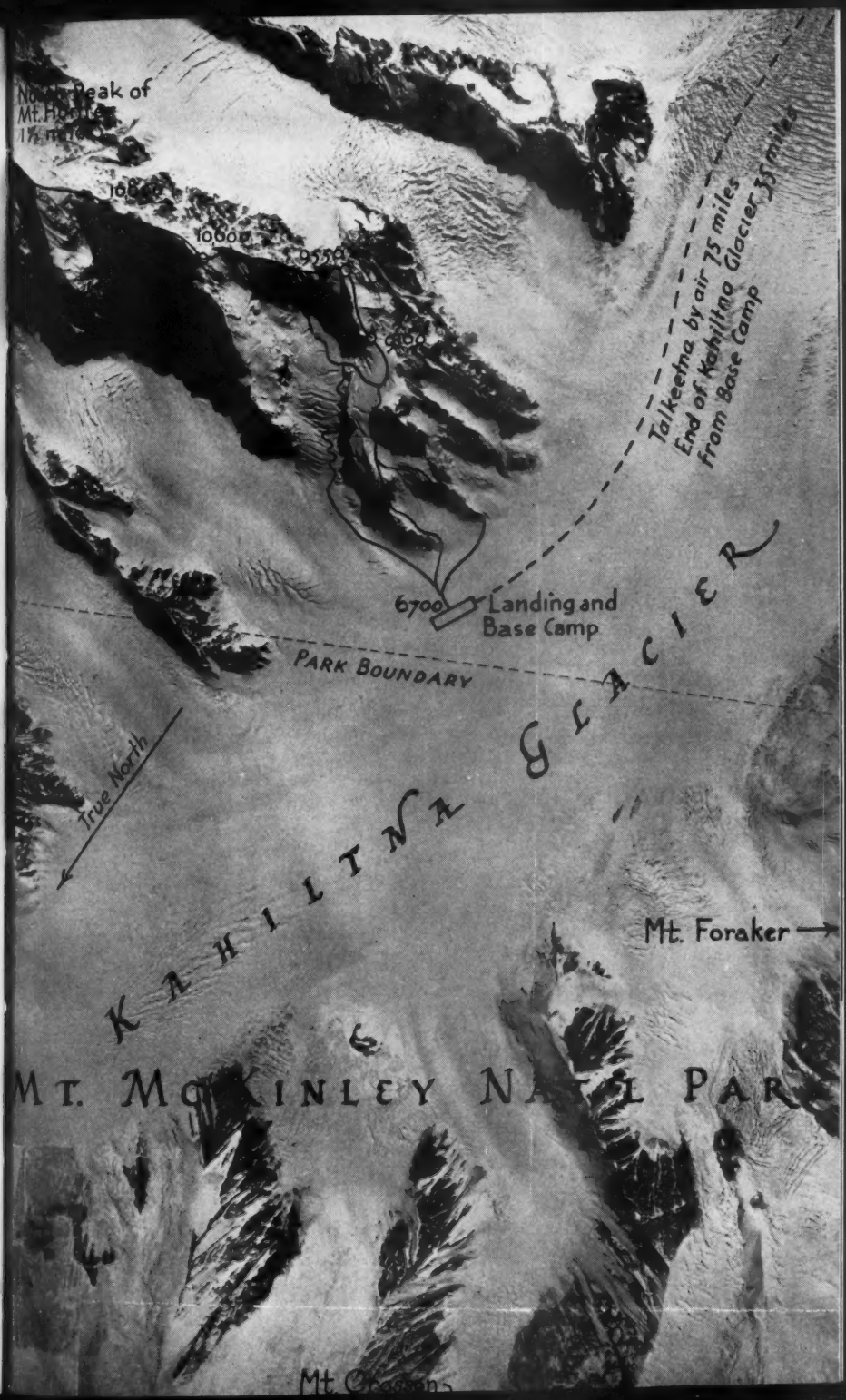
The second half of the climb, above the shoulder, can probably be done in a single day—the major problem being the discovery of a way through the spectacular ice-barrier where the ridge meets the edge of the Plateau at 13,200 feet.

The rock which underlies this ridge is McKinley granite. Elsewhere in the Alaska range it is strong and reasonably well

UPPER KAHILTNA LANDING AREA

Upper Kahiltna Basin seen vertically from 30,000 feet. Kahiltna Pass lies 5 miles up glacier out of picture to lower left. Approximate scale at 7000-foot level (center snowfields) is 1.15 inches per mile

Photo, U. S. Air Force


North Peak of
Mt. Hunter
1½ miles
10800
10600
9550
9000
Talkeetna by air 75 miles
End of Kahiltna Glacier 35 miles
from Base Camp
6700
Landing and
Base Camp
PARK BOUNDARY
True North
KAHILTNA GLACIER
Mt. Foraker
MT. MCKINLEY NATIONAL PARK
Mt. Crosson

10,800
10,600
9,550
9,100

broken up for climbing. Except for short sections of rock at the very start, at 9100 feet, and from 9400 to about 9800 feet, the ridge is an ice-and-snow climb. In the spring, the snow should be firm and reliable, but after early June (particularly in July and August) a common problem on Alaskan ridges of this type, below 12,000 feet, is a veneer of slush and corn-snow on top of the ice. The major snow pitches of the ridge all occur below 11,500 feet, and most of them face slightly south of west. A hot noon-day sun could convert them into exceedingly delicate going, unless an ample supply of ¼″ fixed ropes is set on early-morning reconnaissances.

It appears as if at least two advanced camps would have to be set up on the ridge, carefully related to the major points of difficulty. The first (Camp II) should probably be located on the broad snowfield just west of the 9100 foot-rock tower (see illustration opposite page 481). If this tower proves at all difficult to traverse or turn, this camp should be relayed around to the east side of it (Camp II A) before further progress up the ridge is attempted. This will obviate the need for delicate rock climbing at the end of the day, after tiring trips on the upper ridge. It will also simplify and speed early morning starts and assure that the party is fresh for the difficult pitches above 9500 feet. Camp III, if possible, should be located just east of Peak 10,800, at the very foot of the long slope leading to the edge of the Plateau.

From Base Camp (6700 ft.) to Camp II (9000 ft.) there are several possible routes. Three are indicated in the picture opposite page 480. The left route circles the little pronged buttress at the lower end of the west ridge and zig-zags through the icefall of a small subsidiary glacier to its upper basin at approximately 8000 feet. Active hanging glaciers on both sides of this narrow valley would probably force the route out as near as possible to the middle of the little glacier (if the many large crevasses permit this at all). The notch on the east side of Peak 9100 could then be reached directly by a *very* steep but short ice slope, eliminating the need of climbing around or over Peak 9100. The success or failure of this route will depend: 1) on the extent of crevassing of the little glacier at the time of year it is encountered; 2) on the degree of activity of the adjacent ice cliffs; 3) on the condition of the steep slope leading into the 8900-foot notch.

The central route follows the crest of the northernmost prong

NORTH PEAK AND WEST RIDGE OF MOUNT HUNTER SEEN FROM AIR
The massive southwest face of Mount McKinley rises in upper left background
(9 AM, 19 August 1944)

Photo, B. Washburn

(mostly snow before mid-July; photo was taken in mid-August) of the buttress to a sharp ice ridge which begins about 1200 feet above Base Camp. Three hundred feet of very steep ragged rocks lie just below this ridge. At its upper end a short, ticklish bit of ice and snow will have to be surmounted to gain the end of the plateau (8800 ft.) which can then be traversed easily to Camp II at the foot of Peak 9100.

The third route follows the central prong of the 9100-foot buttress and joins the second route just at the top of the little ice ridge (8500 ft.). This route appears easier than the second, but might entail some danger from small avalanches from the cliffs to the right after a heavy fall of fresh snow.

There are several spots on these three routes which could be made miserable by deep slush in July and August. The first route is the best, if avalanche danger is not too great. The third would probably be second best. If either of the last two routes are used, Peak 9100 will have to be passed. Available pictures are not on a large enough scale to permit close study of this problem, but the *very* steep N. face of the pinnacle of Peak 9100 is probably impossible to traverse across. A direct traverse over the tower would require a long rappel on the east side, after an easy approach to the top from the west. There is a chance that small ledges might be found on the south face to permit a traverse of this very steep granite wall into the 8900-foot notch. It is obvious that a direct route to this notch is the best, if it can be forced. Otherwise, a camp on each side of Peak 9100 would facilitate relaying supplies around or over it. At least ten days' supplies should be packed to this point.

Once past Peak 9100, a very narrow snow ridge (cornices to left) must be followed over Peak 9550 and down into Notch 9400 on its opposite side. Here begins a succession of rock ledges and steep snow pitches which continue with no respite for about 1200 vertical feet. Past experience on this sort of climbing in the Alaska Range leads me to be less concerned by the rock than the snow. The bad rock pitches are immediately above Notch 9400 and they can be strung with fixed rope, no matter how bad they may be. But at about 10,000 feet and at 10,600 feet there are two *extremely* steep, short ice pitches which cannot possibly be turned either to right or left and which could be very difficult except under perfect condi-

DETAIL OF LOWER END OF WEST RIDGE OF MOUNT HUNTER
Compare this photo with vertical view of same area in first picture of series (9 AM, 19 August 1944)

Photo, B. Washburn

9,550
9,100
II

tions. The ice pitch leading to the crest of Peak 10,600 must have a grade of at least 70°.

Several hundred horizontal feet of easy, level walking on a broad snow shoulder lead to another brief, steep struggle with Peak 10,800, immediately beyond which Camp III should be pitched. This ridge should be thoroughly reconnoitred and roped before packing starts. Some spots are so steep that loads will almost surely have to be handlined up them, one by one.

Immediately after leaving Camp III (10,700 ft.) another *very* steep ice slope rises for about 400 feet to the crest of another gently-inclined but narrow snow gable. A rock ledge cuts across this slope just below its top, presenting possibly one of the most exposed bits of climbing in the whole ascent. Here again, fixed rope should be used in order to facilitate a quick early-morning start and a safe late-afternoon descent. This slope should have been reconnoitred and roped on the day before the final climb, and the steps should have been chopped out.

From here on to an altitude of about 12,300 feet, a series of snow-and-ice hummocks, followed by a steep snow slope, should present no undue difficulties. Then 500 feet of steep ice ridge is encountered, with some very steep humps at its upper end. Here the grade briefly lessens and the sérac barrier of the Great Plateau is reached.

Under certain conditions, this barrier can be passed easily. Under others it might actually prove impassable. Careful aerial reconnaissance in advance would greatly help in planning this part of the climb and the traverse of Peak 9100. If a slow Cub airplane is used and the weather calm (evening or very early morning are best), it is surprising how closely details of this sort can be studied from the air. In September 1938, when the photo opposite page 483 was made, the Plateau could have been reached with scarcely a step to chop. In August 1949, when the picture opposite page 481 was made, the barrier was virtually impregnable.

Up to the Great Plateau, *with the exception of two or three short stretches, trail markers would be of little value. From here on to the summit, they should be used religiously.*

Once on the Plateau, it is a level half-mile walk to the base of the summit pyramid of the North Peak of Mount Hunter. The best approach to the top is via the southwest ridge, now the right

NORTH AND CENTRAL PEAKS OF MOUNT HUNTER FROM AIR
Photograph shows upper part of west ridge above approximately 12,000 feet (1040 AM, 18 September 1938)

Photo, B. Washburn

skyline. In order to minimize descent, a short, steep traverse will be required to attain the base of the rocks at the bottom of this ridge. These rocks can be heavily encrusted with frost feathers after a warm storm. If they are in bad condition, a descent around and below the end of the ridge will be necessary in order to reach climbable going on the south face of the summit pyramid. If the steep gully just east of the ridge presents avalanche danger, a lengthy detour around a hump of séracs and cracks will be needed before the ridge can be reached again, above the rocks, at an altitude of about 14,000 feet. A really determined effort should be made to climb this rock ridge, as the detour would be extremely long in relation to the net gain in altitude on the ridge.

Hunter's last defense is a very steep 200-foot ridge from about 14,100 to 14,300 feet. This step is clearly visible on the skyline, just to the right of the top in the photo opposite page 483. It cannot be evaded by a traverse to the left, and a traverse to the right might lead into deep, treacherous snow.

Above this, the summit cap can be attacked directly with a traverse to the right – probably necessary in order to get over the final crack. This rift always seems present, about 100 feet below the top. Beware of treacherous cracks in this last two or three hundred yards. All photographs indicate a number of bad ones, deeply covered with snow and frost feathers.

In conclusion, I must repeat my conviction that this is a long, steep difficult climb which should not be undertaken by any but experienced climbers with carefully-planned air support.

American Alpine Club Research Fund

The American Alpine Club Research Fund was established in 1945 to promote scientific, literary, educational or historical research and publication related to mountaineering, geology or geography. The members appointed to the Research Committee by the President are: William B. Osgood Field, Jr., William R. Latady, Christine L. Orcutt, Chairman.

Report of the Committee, 1950-1952

Although the Research Fund bore the name of the Club and was administered as a trust during the first six years of its existence by a group numbering from three to five trustees, all of whom were Club members, under the *Form of Gift* whereby the Fund was established, these Trustees were given the power to act independently of the Board of Directors, in all matters pertaining to the Fund. While this *Form of Gift* had been duly approved and passed by a majority vote of the Club at its Annual Meeting in 1944, such a division of authority was contrary to the By-Laws of the Club which state in paragraph 4: "The Board of Directors shall have responsible control of all the Club's work and property," etc. An amendment of The American Alpine Club Research Fund *Form of Gift* was therefore recommended by a joint resolution of all Trustees of The American Alpine Club Research Fund and vote of the Council, as follows: "To terminate the Trust authorized and set up by the *Form of Gift* through a majority vote of the Club membership at the Annual Meeting held in December, 1944, and known as The American Alpine Club Research Fund, and to direct the Trustees thereof to pay all monies in their hands to the Treasurer of The American Alpine Club, the said monies both as to principal and income to be expended by The American Alpine Club Research Committee only for those purposes as set forth in the *Form of Gift* namely for scientific, literary, or historical research or publication related to mountaineering, geology or geography." This amendment was passed during a special meeting of the Club, called by the President, and held on Saturday, 26 May 1951.

The monies paid by the Trustees to the Treasurer of the Club at this time amounted to $214.32, and a Research Committee of

three appointed by the President, consisting of William B. Osgood Field, Jr., William R. Latady, and Christine L. Orcutt, Chairman, took over the responsibilities of the Fund for the season of 1951-1952.

During the summer of 1950 three field projects were endorsed by the Trustees and sponsored in part through appropriations from the Research Fund as follows: *Project 15—Studies of Glaciers of the Gannett-Fremont Peak Area in the Wind River Mountains of Wyoming,* directed by Mark F. Meier. In conjunction with these studies Meier compiled and drew up an excellent map of the North Central Wind River Mountains; this map was published, together with his report on some of the glaciological features observed in this region, in Volume VIII, Number I, *American Alpine Journal 1951.* In the summer of 1952 copies of this map, somewhat enlarged, proved of considerable value not only to members of the Appalachian Mountain Club's Wind River Expedition but to troops from the Mountain and Cold Weather Training Command who came there for maneuvers from Camp Carson in Colorado. The Colonel in command, who had been issued the U. S. Geological Survey map of early 1900 vintage, expressed considerable enthusiasm and appreciation when A.M.C. leaders Hector Towle and Gerald E. Fosbroke presented him with several copies of the Meier map.

Meier also completed planimetric maps of 14 of the Wind River glaciers including Gannett, Dinwoody, Mammoth, Sacagawea, Fremont, Knife Point, Gooseneck, Baby, Minor, Heap Steep, Sphinx, and F-3.

In addition to the maps Meier submitted a photographic record of some of the Wind River glaciers, numbering 72 photographs in all, one set of which was presented to The American Geographical Society for their permanent file, while the Club's set, prior to being placed on permanent file, was loaned to Dr. Louis L. Ray of the U. S. Geological Survey, who was at the time inaugurating a photographic file for the Survey in Washington, D. C., and who expressed his approval of the collection by ordering a set for the Survey.

Project 16—Juneau Ice Field, Alaska Research Project. This study was carried out under the able direction of Maynard M. Miller, with a total of 29 men participating in the field work. Cosponsored by several organizations, both military and civilian, with a small token assistance from the Fund, this project provided new

glaciological, botanical, and meteorological data of far-reaching value, while of particular interest to the Club was a training program for scientists in the techniques of field work on glacier, mountain, and arctic terrain.

Project 17—Dirt Band Studies. First initiated by Joel E. Fisher in 1946, on the Glacier du Géant and Mer-de-Glace near Chamonix, France, these studies were continued in 1951 in the Swiss Alps. New observations on the Gornergletscher at the foot of Monte Rosa, near Zermatt, supplied data of value in solving the origin of formation of both the Forbes and Alaskan types of dirt bands. Fisher was assisted by two well known guides from Zermatt, Felix Julen the elder and his son. Fisher's report, admirably illustrated by an excellent composite photograph of the Mer de Glace, two diagrams, and several close-ups of the bubbly ice found on the Gorner Gletscher, was published together with the reports on Projects 15 and 16 in *A. A. J.*, 1951.

Because of uncertainty as to the probable future of the Research Fund, preceding its transition from its original status of being a trust to its present status as a fund of the Club, no projects were sponsored in the summer of 1951.

In September 1952, *Project 18—Further Studies of the Dinwoody Glaciers, Wind River Mountains, Wyoming,* sponsored solely by the American Alpine Club Research Fund and directed by Mark F. Meier, Club member and graduate assistant in the Division of Geological Sciences at California Institute of Technology, assisted by Don Emerson, was carried through successfully in spite of unfavourable weather. Meier's report of glacier variations and glacier structures and other studies made in this region appears elsewhere in this *Journal,* together with a map of the surface features of Dinwoody Glacier, photographs, and line drawings.

At this time the Club members who have served either as Trustees or members of the Research Committee wish to express their deep felt gratitude to the many scientists who have so kindly helped them in their work and have given so freely of their time and knowledge. We are particularly indebted to the late Dr. François E. Matthes, Senior Geologist of the U. S. Geological Survey and a longtime member of the Club; the late Dr. Kirk Bryan, noted glaciologist of Harvard University; Dr. Frederick K. Morris, Professor Emeritus of Geology, Massachusetts Institute of Tech-

nology; Dr. Richard Foster Flint, Yale University; Dr. Louis L. Ray, U. S. Geological Survey, Washington, D. C.; Mr. Gerald Fitzgerald, Chief Topographic Engineer of the U. S. Geological Survey in Washington, D. C.; Dr. Robert L. Nichols, Tufts College; Dr. Robert P. Sharp, California Institute of Technology; Dr. Kirtley Mather, Harvard University; Dr. Richard J. Lougee, Clark University; Dr. Gerald Seligman of London; Dr. G. C. L. Bertram, Director, Scott Polar Research Institute, Cambridge, England; Mr. L. V. Lewis, Geography Department, Trinity College, Cambridge, England.

In view of the problems relating to the financial status of the Club it has until now been deemed advisable by both the Council and the Research Committee that no solicitation of donations be made by the Research Committee on behalf of the Fund, nor indeed, have any solicitations ever been made on its behalf throughout the past seven years of its existence. Members interested in the work have very kindly supported it with modest to extremely generous contributions, and since the cost of the Fund's administration has been assumed by the trustees or members of the Committee, the projects sponsored have received the full benefit of all donations without cost to the Fund. While our Fund is now sadly depleted, our potentialities are unlimited. We are hopeful that those friends who have supported us in the past will find our efforts still worthy of their support in the future.

We wish to take this opportunity to thank them not only for their financial aid but for their enthusiasm, interest, and faith, without which this research work could never have been accomplished.

William B. Osgood Field, Jr.
Christine L. Orcutt, Chairman
William R. Latady
The American Alpine Club Research Committee

Further Studies of the Dinwoody Glaciers, Wind River Mountains, Wyoming

MARK F. MEIER

Glaciological studies around Gannett Peak in 1950[1] suggested that high névé fields were thickening and that the rate of glacier recession was diminishing. The author was grateful for the chance to return to the glaciers in 1952 to check their most recent variations. A structural investigation of Dinwoody Glacier was also completed at that time, and other glaciological studies were continued. Deteriorating weather in September prevented access to glaciers west of the Continental Divide, so research was confined to Dinwoody, Gooseneck, Heap Steep, and Gannett glaciers. Donald O. Emerson served as an able field partner. The field data have not been completely analyzed; the conclusions presented must therefore be regarded as tentative.

Glacier Variations

The year 1950 was exceptional for Dinwoody Glacier, for in spite of general recession the glacier ended the season with considerable excess of accumulation over ablation. The year 1952 was also exceptional, but in the opposite extreme: the balance sheet of accumulation and ablation was strongly negative. With the firn limit at nearly 12,500 feet, ablation exceeded accumulation on 57 percent of the glacier surface. Clearly discernible below the 1952 firn limit was a broad névé zone, the outcropping edge of 1951 and 1950 snow accumulation. The position of the firn limit in 1945, 1950, and 1952 is shown in the illustration. An abnormally high firn limit was observed on all glaciers studied, and the figures for Dinwoody Glacier are typical.

Current photographs of Dinwoody, Gooseneck, and Gannett glaciers show striking changes when compared with those taken in

[1] M. F. Meier, "Glaciers of the Gannett-Fremont Peak area, Wyoming," *A. A. J.*, VIII (1951), 109-113.

1940 by Delo[2] and in 1930 by Wentworth.[3] Thinning and recession have been continuous at lower elevations; most of the deterioration occurred between 1930 and 1941. Recession of Gooseneck and Gannett glaciers has been nearly constant since 1945.

High altitude snowfields, on the other hand, have thickened noticeably since 1940. The snow crown on Gannett Peak snowfields around the Sphinx, Dinwoody Glacier firn east of Pinnacle Ridge, and the upper parts of Gannett Glacier all show this effect. In spite of the bad year 1952, firn north of Gannett Peak has thickened about 50 feet since 1950.

This low-level recession and concurrent high-level thickening cannot be attributed as yet to any single cause. A rise in the altitude of maximum snowfall is one possibility, but a general increase in winter precipitation or decrease in summer temperature will also induce thickening of the névé, which might not affect recession of the terminus until a "wave" of increased thickness reaches the snout.

Glacier Structures

Glaciers exhibit many sedimentary and structural features reminiscent of the sedimentary bedding, faults, and metamorphic foliation found in deformed rocks. Rarely, however, have these features been mapped so that they could be used to gain insight into the manner of flowage of glaciers. Consequently, in 1952 the author completed a map of the surface features of Dinwoody Glacier.

Crevasses (tension joints) and isolated thrust faults are usually obvious and unambiguous. However, two prominent planar features were found which are completely different in origin, yet are almost indistinguishable. These are a sedimentary layering inherited from the firn and a foliation induced by flow. The cyclic nature of the sedimentary layers suggests that they represent annual snow accumulations. After considerable study, several criteria were found which, in most cases, made it possible to distinguish these structures in the field:

(1) Foliation surfaces are generally very planar except where

[2] D. M. Delo, "Recent Recession of Dinwoody Glaciers," (abstract), *Geol. Soc. Amer. Bull.*, 51 (1940), 1924.

[3] C. K. Wentworth and D. M. Delo, "Dinwoody Glaciers, Wind River Mountains, Wyoming," *Geol. Soc. Amer. Bull.*, 42 (1931), 605-620.

secondarily contorted, whereas annual layers are more irregular and only sub-parallel.

(2) Foliation planes may be very close together, and in some cases are separated only by small fractions of an inch. Sedimentary layers were never observed so close together.

(3) Flow foliation is made recognizable by contrasts between bubbly and clear ice, or ice of different crystal sizes. Very thin lamellae of fine-grained (sheared) ice are sometimes found. Sedimentary layers, on the other hand, usually occur as cycles of clean and dirty, banded ice. Accumulations of debris conformable with the bedding occurs locally.

(4) The trend of foliation is often roughly parallel to the direction of flow. Annual layers are roughly parallel to the firn line near that line, but farther down dip steeply up-glacier.

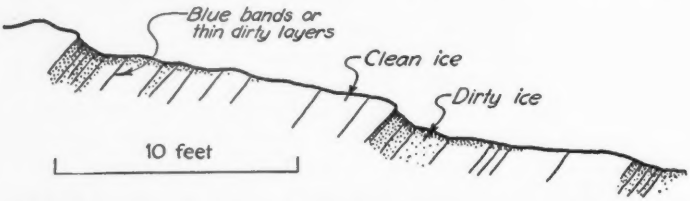
(5) Foliation is most strongly developed near the margins, terminus, and medial moraines; annual layers are indistinct in these places and most prominent in the center of ice streams.

(6) The foliation is indistinct or unrecognizable from a distance, but annual layers are most obvious when viewed from a distant point—apparently slight differences in dirt content set off the annual bands.

As can be seen from the accompanying map, the pattern of structures on the surface is clearly related to the flow of the glacier. The sedimentary bands are pushed downhill fastest in the center of ice streams, and are rotated so that they change from an initial low-angle down-glacier dip through the horizontal to a steep up-glacier dip, which flattens out somewhat at the terminus. These bands are highly contorted below the margins of the steep tributary which descends from Mount Wilson, but are perfectly regular below the much steeper Doublet Peak icefall. At the intersection of several ice streams are zones (medial moraines) where the velocity is evidently very low, for here movement of annual layers is retarded, debris is accumulated, and a foliation parallel to the shearing is strongly developed. Sedimentary layers and foliation here have a parallel trend and can be distinguished only by differences in dip. Foliation is well developed along the east margin of the glacier; here the planes dip up-glacier and overthrust sedimentary layers. Near the terminus are many isolated thrust faults where active ice overrides the stagnant terminal ice.

Other Studies

If one assumes that the glacier is approximately in equilibrium, then the spacing of annual bands is an indication of surface velocity distribution. Annual bands just below the Doublet Peak icefall, for instance, average 29 feet apart; thus one component of velocity here is 29 feet per year if the assumption is valid. The exact analysis is more complicated than this, involving consideration of ablation,



dip of layers, and slope of surface, and awaits completion of a topographic map of the glacier.

The ice caves above a small nunatak near the terminus of Gannett Glacier were revisited in 1952, in the hope that the crystalline structure of extruded ice could be further investigated. Unfortunately, all of the ice caves had closed so that no extruded ice could be obtained. The cause of this change in the caves is not known.

With the completion of mapping on Dinwoody Glacier, this becomes one of the few glaciers in the world that have been thoroughly investigated from a structural point of view. Photographs taken in 1930 and almost yearly since 1939, together with regimen calculations of 1950, provide a rich collection of data for further study of glacier variation in this area. It is hoped that future workers can continue the investigations of these small, continental high-altitude ice masses.

Cold Ice Tunnel on the Silbersattel, Monte Rosa

Joel E. Fisher

Preliminary Report

During the summer of 1952 a horizontal tunnel at the 4200 m. contour was driven 65 m. into the Monte Rosa Glacier, heading southeast toward the Silbersattel. (Swiss coordinates 632.65, 87.70, Landeskarte der Schweiz, Blatt 284, Mischabel.) The tunnel is 2 m. high by 1 m. wide, and its floor is level. The circle in Fig. 1 shows its general location; Fig. 2 shows the portal, as seen from point 4203 on the Swiss map (Mischabel sheet); Fig. 3 shows a view within the tunnel, looking northwest, and Fig. 4 and Fig. 5 are flashlight photographs taken inside the tunnel. Fig. 6 is a profile of the tunnel and slope.

The object of driving this tunnel was to obtain a complete sounding right through to bedrock of a truly cold arctic-type glacier, including data on density and temperature, as well as on possible varying velocities within the ice, and, indirectly, on relative viscosities at different temperatures below 0°C. A further object was the visual exploration of the basal region of an active cold glacier, where the pressure on the bed is many hundred pounds per square inch.

It is pertinent to comment that the major discharge of this Monte Rosa Glacier is through a gap leftwards in Fig. 1, as a glacier superimposed on top of the wide Gorner Glacier (left of the photograph), rather than, as suggested by the location of the words "Monte Rosa Gletscher," on the Swiss map, towards the Gornersee (bottom right in the photograph). The continuation of this inlay of Monte Rosa Glacier ice, in the Gorner Glacier, produces its center lane of remarkably white ice, so well seen from the Gornergrat, a whiteness due to the bubbly, snow-like nature of that particular lane (density about 0.85), compared with the darker non-bubbly normal glacier ice on either side of it, density about 0.90. (See *Journal of Glaciology,* Vol. I, No. 7, 1950, 373-377, for a description of this particular white lane of ice by the writer.)

It is well known that bubbly ice in glaciers is typical of high

arctic glaciers. It is rare in temperate zone glaciers (except in the Himalaya), suggesting that the formation of bubbly ice is the result of firnification of snow under unusually cold conditions, i.e. without presence of rain or melt water. Of all continuous glaciers in the Alps this Monte Rosa Glacier possesses the coldest area of accumulation—as any climber or guide will agree. Exposed to the north, shaded by the Dufourspitze—a notably "cold" peak, this particular location, some 1000 m. above the firn line, promised genuinely cold conditions. Observations within the tunnel most assuredly have fulfilled these expectations.

Density. After penetrating the 10 m. of surface (fairly recent accumulation of snow), the density is about constant, about 0.75, compared with 0.85 for this ice, years later, in the lower glacier. No blue bands whatever were noted.

Occasional air pockets, up to 100 litres volume, were pierced.

The material is apparently hard, compressed névé, with no suggestion of further crystal growth.

At 55 m. inside, a vertical crack, 10 cm. wide, was crossed. This appears to be the downward continuation of the vertical ice cliff, seen above the portal in Fig. 2; if so it is convincing evidence that a cold glacier moves over steps in its bed by vertical cross-glacier faulting. This crack was clean sided, and a powerful draft of air circulating through it gave welcome ventitlation this far inside the tunnel.

Temperatures. These were noted as follows:

TABLE I

Distance from portal in meters	*Temperature* °F.	°C.
10	16	8.9
20	14	10.0
30	13	10.6
40	12	11.1
50	11	11.7
60	8	13.3

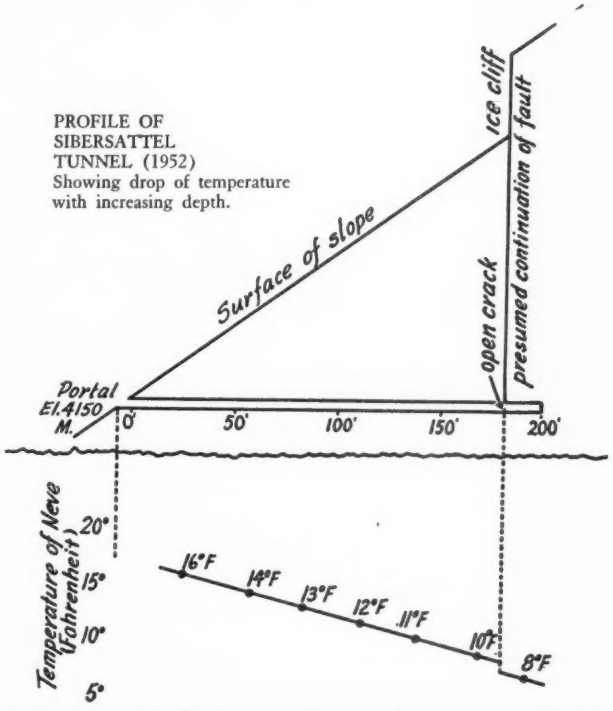
The tunnel crossed the crevasse at 55 m. and here the sudden drop in temperature took place.

There was no appreciable change in the temperatures over a

period of two months. Four alcohol Fahrenheit thermometers were used, inserted 15 cm. into the ice as a check on each other.

Another tunnel has been driven 28 m. in the Signalkuppe névé, at an altitude of 4300 m., as a check on observations made in this main tunnel. A comparable temperature gradient was found there.

The portal of this tunnel has now been well marked by poles, as well as by bearings and staining of snow, so that there is no doubt about recovering the entrance next spring, when it is hoped to continue the tunnel right through to bedrock, perhaps 100 m. further.



Warmest temperature, near Portal, presumably approximates mean annual atmospheric temperature at 4150 meter elevation. Coldest temperatures, further inside, presumably approximate mean winter temperature, higher up, where and when snow fell*

* Note discontinuity on crossing presumed fault plane.

A rope has been laid loosely along its floor in case of any dislocation across the floor.

Even without further advance of the project, changes in the location of the portal with reference to fixed point 4203 on the map, changes in the grade of the tunnel, and the rate of deformation of the 2 x 1 m. cross-section of the tunnel (compared to that of similar tunnels in isothermal glacier ice) will produce, by next spring, useful data on the rate of flow of cold ice névé* and on the viscosity of cold ice. No confirmation, or otherwise, of extrusion flow at this altitude can be expected until a year or so after the tunnel shall have been extended to near bedrock. It is expected by the writer (the sponsor of the tunnel) that the temperature of the ice may rise on approaching bedrock, because of both concentration there of internal heat of the earth and friction.

The physical work involved in the tunnel excavation was very considerable. No mechanical aids were used. Credit is due to Felix Julen, the writer's guide at Zermatt for (now) 41 years, who, at the age of 69, took charge of the operation and inspired many other younger fellow guides to join in the labour.

Credit should also go to Messrs. George C. Band, Roger Chorley, Ian MacNaught Davies, and other Cambridge friends of theirs who put in the better part of the 1952 summer on this project.

*Observations at the bergschrund, altitude 4500 m., at the very head of this névé field, showed an opening of 1 m. in 2 months (July and August), the movement being directly in line with the bearing of this tunnel, so that a velocity of perhaps 5 to 10 m. per annum at the tunnel can be expected.

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Athabaska Pass

Bradley B. Gilman

(No ballad—no sonnet, but a very few brief lines* suggested by a trip up the Whirlpool River in July 1952.)

High in the Canadian mountains lies a tiny lake,
Nestled between two giant ice-clad guards;
It hangs upon the height of land to make
Its waters flow half East, half West,
Into two oceans a continent apart.

A century past, this spot was full of life,
A place of celebration and good cheer,
"Committee Punchbowl," it was called; and
Every hardy Voyageur who reached its shores
Toasted his comrades for pure joy of having made
The perilous passage of the long slopes below.
It marked the summit of the barrier
Blocking the fur trade from its London shops.
From far York Factory on Hudson's Bay
By horse, bateau and trappers' board
They packed supplies and trade goods west.
From the Pacific came returning caravans
Laden with precious beaver skins
Up the Columbia, back to Athabaska's Crest.
Like the lake's waters the human stream flowed East and West,
Unchecked by every natural obstacle en route.
Who were these sturdy warriors of the woods and wilds?
Voyageurs they, from Scotland, Ireland and from Montreal.
Thompson, the first to find the pass,
Struggled through seven-foot drifts of snow,
Winning a way downward to the western sea.
There followed then a growing stream of men
Douglas, the botanist, for whom the firs are named,
Henry, the elder, from our own eastern coast,

* Written for the 1953 Annual Meeting of the Worcester Fire Society.

William M'Gillivray, whose resounding name
Titles the great black ridge that parallels the trail for miles below
the Pass.

Fur traders, all, daring this mountain route,
Reaching the Astor's post on far Columbia's shore
Daring and dying, yet never lacking
Men to replace those gone before.

Today the lake remains. Its guards are there,
Shrouded in ice and threatening all who come beneath.
But passers-by are rare.
Gone are the beaver and the men who sought them out.
Trade seeks a swifter route and wings its way
Over the barrier peaks. Save for the wandering
Alpinist, hunter and fisherman,
The Pass now lies deserted and at rest.
Camped by the Punchbowl at the height of land
I roused at night to hear
The ghostly traffic of the Voyageurs cresting the last long slopes,
Flinging their packs aside and
Cheering that the "Grand Cote" was done.
They told of hazards on the way,
Of quick sands, whirlpools, falls and glacier ice.
I shivered and lay still, swelling with pride
That I had bested these same obstacles today
Yet knowing I was no equal to the men I listened to,
They who had struggled up the Pass as part of their life's work,
Where I was doing it for fun, with no compulsion to achieve or fail.
I slept again, content to let the Voyageurs pass on,
Oblivious of the camper by the trail.

Their trials and sufferings mean so little now
When river boats have been displaced by trains
And those in turn displaced by fleet-winged planes
Yet my brief visit with the Voyageurs
Brings a trite message often overlooked
That modern life is ringed about with luxury,
Soft beds, rich food, warm clothes are in our very grasp,

Taken for granted they count for little now.
Perhaps we should oftener view events of bygone days,
Seeing the hardships that such earlier men have overcome
So that with new perspective we may weigh more dear
Our twentieth century comforts that grow year by year.
You, Worcester fire-flies, bound by ancient rules,
Living in 1790 by your book,
Accept my message easily as told.
But those who doubt, I cordially invite
To join me in a climb to Athabaska Pass
To learn first hand the valor of these Men of Old.

PROCEEDINGS OF THE CLUB

Secretary's Annual Report

6 December 1952

This report on Club activity during 1952 covers the sixth year during which I have enjoyed serving as your Secretary, and it is remarkably similar to that given you a year ago at the 1951 Annual Meeting. The similarity indicates the orderly, smooth year of operation behind us.

Since the last Annual Meeting in Boston, meetings of the Directors have been held in New York on March 22nd, and May 24th, in Barre, Massachusetts, on October 4th, and in New York this morning. In addition, a special meeting of the Club was held in New York on May 24th at which an increase in dues was unanimously voted. The ballot taken by mail on this question before the meeting resulted in 238 yea votes and 36 nay votes.

Informal meetings of the Club have been held about every month at the Club House in New York. These have been well attended and the programs found most interesting. Fifty-two members and guests attended a successful meeting in March in Philadelphia, and Section meetings have been regularly held on the West Coast by the Sierra Nevada and Cascade sections.

During the year the Club has lost by death the following: Arthur Becket Lamb, May 15, 1952; John B. Churchill, July 15, 1952; Oscar A. Cook, July 23, 1952; and John H. Hall, August 14, 1952. Also during the year, five members have resigned and two were dropped for non-payment of dues. However new members have been elected—six in January, twelve in May, seven in July, and ten in November. Not counting the applications passed at the Council Meeting this morning, our membership shows a gain of 23. Present membership is 431 Active and 10 Honorary, of whom five are also Active, making a total membership of 436.

During the year there has been much accomplished in the publication field. Besides the excellent *Journal* and the invaluable *News,* the Club has played an important part in getting into the hands of the public the *Guide to the Colorado Mountains* and has been of

assistance to Bradford Washburn in the publication of his excellent volume on Mt. McKinley. Great progress has been made toward the completion of the Library catalogue. No attempt was made to hold a summer outing during 1952. The one in 1951 was so successful that plans are now well under way for a 1953 camp, but as yet no demand has developed for making it an annual event.

This touches the high spots of Club activities. Those of members have reached you on the pages of the *News,* and I see no point in repeating them here even though they include interesting climbing records rather than a prosaic recital of accomplished business activities.

Today, I hand on the records to John Oberlin, the incoming Secretary, with confidence that he can efficiently handle the steadily increasing detail of arranging and recording the business transacted at the Club meetings.

BRADLEY B. GILMAN,
Secretary

Annual Meeting and Dinner

Minutes of the 50th Annual Meeting of the American Alpine Club held at the Club House, 113 East 90th Street, New York, New York, on Saturday 6 December 1952, at 2.00 P.M.

President Hall called the meeting to order at 2.00 P.M. There were 55 members present at the beginning of the business meeting and about 80 at the close of the meeting.

It was

VOTED: To dispense with the reading of the Minutes of the last Annual Meeting and to accept them as prepared by the Secretary.

The Secretary presented his Annual Report which was by VOTE accepted with thanks.

Mr. Measuroll presented his printed annual Treasurer's Report showing an operating loss of $648.00. He emphasized the $750 non-recurring income item of Missouri Pacific bond interest. He explained the settlement of the Ladd Estate. After discussion it was

VOTED: To confirm the action of the Treasurer in releasing the Ladd Estate from further liability to the Club.

The Treasurer commented on the expenditure of unallocated capital funds for the Library catalogue. He emphasized the self-sustaining nature of the Club House. He re-stated his opinion that the Club should insist on the maintenance of its capital funds. After discussion, it was

VOTED: To approve each item of expense during the past fiscal year as reported by the Treasurer in his Annual Report.

After discussion, it was

VOTED: To approve the retention to date of the investments shown in the Treasurer's Annual Report.

Mr. Henry, from the floor, asked if the Club could secure an exemption for New York real estate taxes. Mr. Case stated that in that event, undoubtedly the Club House would have to be opened freely to the public. Mr. Measuroll emphasized the risk of loss of the federal tax exemption if a new New York corporation were formed in order to apply for exemption from New York real estate taxes. Mr. Hall stated that the matter of re-incorporating in New York in order to avoid New York taxes was looked into five years ago, and the Club received advice that the formation of a new New York corporation or a dual incorporation of the present Pennsylvania corporation would not be helpful in regard to the tax problem.

Mr. Hall, in the absence of Miss Buck, read the Librarian's Report. It was

VOTED: To accept the report with thanks.

Mr. Robertson spoke of the Editors' turning over *Journal* material to Mr. Child who, in turn, reported to the meeting, stating that an early publication of the *Journal* is expected although some material was not yet in hand. In answer to questions from the floor, he stated that the *Journal* will contain articles on climbing in Alaska, Peru, and probably an article on the first ascent by the Japanese party of Mt. Alberta. In answer to a question as to a deadline for material, Mr. Child said that it was highly desirable for material to be in the hands of the Editor not later than 1 December,

but that it had been impossible to establish a rigid deadline. Mr. Henderson spoke from the floor to say that even a December 1st deadline would indicate publication not much before May 1st and also to suggest that *Journal* expense might be reduced by added advertising and by entering an application for using Second Class Postage rates. Mr. Hall stated that at the Council Meeting in the morning a committee had been appointed to explore the possibility of entering the *Journal* and *News* as Second Class material for postage purposes. It was

VOTED: To accept the report of the *Journal* Editors with thanks to the three Editors for their excellent work.

Miss Gest reported about the six issues of the *News,* stating that it had now become firmly established as a Club project and that as Editor she will welcome brief notes from members about their activities; that it is expected to continue a small amount of advertising in the *News* since $30.00 received for the advertising in the last issue just about covered its cost. Miss Gest stated that the next *News* would probably appear about January 15th and that normally an issue would be prepared for mailing about three weeks after each Council Meeting. She stated that she is ready to include in the *News* whatever members find most interesting.

Mr. Field reported for the House Committee that the flue had been repaired; that the Club House is in good shape and needs little maintenance; that the books have been kept in good condition by the careful work of Mr. Neil.

Mr. Case reported for the Mountain and Cold Weather Training Committee, stating that although not much has been going on, the Defense Department is now showing more interest in cold weather training than it did during the war. The objective of the Army Ground Forces to give all infantry training in cold weather work is supported by the Club, but it is hard to work out as men are often required for action before such training is possible. Our Club member, Colonel Nilsson, will be in charge of another Camp Drum Exercise this year which will be aimed at testing the mobility of the troops and their ability to live under cold-weather conditions. Mr. Wood stated that there is now in existence a 10th Mountain Division Alumni Association which includes some Club members, but Mr. Putnam stated from the floor that he and others feel the

Association is scarcely representative of the majority of the alumni it reports to represent.

In Mr. House's absence, there was no report from the Conservation Committee.

Miss Corning reported for the Entertainment Committee about the regular meetings held at the Club House during the year. Her report was approved with acclaim by the members.

Mrs. Orcutt reported for the Research Committee, giving a brief statement of Research activities during the past seven years which included eighteen projects and two publications. She wished to thank the various scientists who have helped the Research program and she hoped that Club members would continue to support it as the Committee is now lacking funds to carry on several worthy projects. She stated that during the past summer in Zermatt she had attended the Fuhrer Fest, from which many of the professional guides had sent friendly messages via her to American mountaineers.

The Secretary read the report of the Nominating Committee and stated that as no other nominations had been received, the candidates selected by the Committee were, under the by-laws, now acclaimed as elected.

On motion of Mr. Fuller, it was

VOTED: To thank Mr. Hall for his thirty years' consecutive work on the Council.

This was recognized by a rising vote and sustained applause.

There being no further business, it was

VOTED: To adjourn.

The business meeting was followed as usual by a pleasant afternoon program at which members and guests heard a talk, illustrated with slides, by Dr. Henry Buchtel of Denver, about the proposed Club camp on No Name Creek. This was followed by a short series of slides taken by Mr. Latady at the Gilmans' camp in Barre, Massachusetts, at the time of the last Council Meeting. Mr. Sterling Hendricks then gave an illustrated lecture on his climbing trip in the Northern Monashees, followed by an illustrated talk by Thayer Scudder about the first ascents of Mt. Brooks and Mt. Mather and

other peaks east of the Muldrow Glacier. Walter Prager then showed his most instructive moving picture of a number of difficult Swiss climbs by four professional guides.

The Fiftieth Annual Dinner of the Club was held at the Biltmore Hotel at 7:15 P.M. after a pleasant cocktail hour and was attended by 256 members and guests, this being the largest meeting in the history of the Club.

President Hall presided and read messages and telegrams of congratulations and regrets from members unable to be present. He commented about the situation of the Swiss party now retreating from Mt. Everest. Dr. Houston announced the personnel of the K-2 Party which will include in addition to Dr. Houston and Robert Bates, the leaders, the following: George Bell, Robert Craig, Arthur Gilkey, Dee Molenaar, Peter Schoening, and Captain Streather, as Transport Officer. Dr. Houston stated that a leading Swiss amateur is also expected to join the party.

Mr. Hall then called on Bradley B. Gilman, the incoming President, who made an appropriate remark or two in accepting office.

Dr. Buchtel then showed his slides of No Name Creek in the San Juan Mountains of Colorado. The Club was later addressed by Peter Schoening of Seattle, who gave a beautifully illustrated talk about the first ascent of Mt. Augusta (14,070 ft.) and his party's new route up King Peak (17,000 ft.). The first ascent of Salcantay in Peru (20,570 ft.) was then described in an entertaining illustrated talk by Mr. Graham Matthews and Mr. George Bell, after which the meeting was adjourned.

BRADLEY B. GILMAN,
Secretary

Report of the Librarian

15 November 1951 to 15 November 1952

During this last year 142 volumes have been added to the Library, making a total of 5205. The additions include bound periodicals, donations from Henry S. Hall, Jr., Mr. MacCarthy, Dr. Thorington, publishers, various donors, and from the estate of

Daniel Underhill. We are especially indebted to B. Arthaud for their generosity in sending us their publications of the Collection Sempervivum.

Additions have also been made to the Lending Library which, for some reason not apparent, has not been used as much this year as last.

Other contributions include a fine steel cabinet for prints; albums of photos; cases of negatives of the Alps and Canadian Rockies, 1909-1936; Pyrenean souvenirs, and many miscellaneous items from Dr. Thorington.

Dr. Anthony Ladd donated his father's ice-axe and rope; also a filing case containing his father's correspondence concerning Mt. Fairweather and his other Alaskan trips.

Another model of a skier, carved in wood by a Cortina guide, was the gift of Hazel Jackson.

Since April 1st Mrs. Hinds, a former Librarian, has been typing our Library cards. Eventually we shall have a fine catalog of typed author, shelf, title, and reference cards. Simple directions for using the catalog have been placed on the card catalog cabinet.

Again we are grateful to Mr. Neil for his assistance in caring for the Library. Every year he cleans the books, washes the 337 shelves, and reconditions the leather-bound volumes.

We have been delighted to welcome here members of various foreign clubs: Dr. Kinzl, Director of the Austrian Alpine Club; Bernard Pierre, Mme. Kogan, Dr. Guillemin of the Salcantay Expedition, and members of the Groupe de Haute Montagne and the French Alpine Club; Miss Una Cameron of the Ladies Alpine Club, London; several members of the Japanese Alpine Club; and Count de Minerbi of the Italian Alpine Club, which now has 220 sections with a membership of more than 80,000. The Count gave us a most interesting talk at one of our teas about the history, organization, and activities of the Italian Alpine Club. We hope that in the future we may have an opportunity to receive many other representatives of foreign clubs.

HELEN I. BUCK,
Librarian

IN MEMORIAM

RICHARD L. BURDSALL

1895-1953

Richard L. Burdsall, son of Elwood and Louella M. Burdsall, was born at Purchase, New York, in 1895. After graduation from Swarthmore College in 1917 as a mechanical engineer, he served with the American Friends Service Committee during World War I, and afterwards joined the Russell, Burdsall & Ward Bolt and Nut Co., of which his grandfather had been a founder. He served this company until his death.

In addition to mountaineering Dick's wide interests included ornithology, sailing, and the work of the Society of Friends. On one cruise he narrowly escaped death when his boat caught fire from gasoline fumes and was entirely destroyed. His interest in mountaineering developed relatively late, for Dick's first real mountain climb was in 1933 to the top of Minya Konka in western China, then the second highest mountain to have been climbed. On this great expedition, one of the finest ever to go to the Himalayas, Dick shared the work with Arthur B. Emmons III and Terris Moore, two of the outstanding American climbers of the day. His success in reaching the top proved for all time his amazing courage, determination, and endurance.

Dick's last big expedition came in 1938 as a member of the first American expedition to K2. Those of us who shared his companionship on this adventure will never forget his patience, kindness, good humor, and superb expedition spirit. He was the gentlest and best of companions. He not only served as treasurer of this expedition, but was also serving as treasurer of the American Alpine Club's 1953 expedition to K2 at the time of his death.

The newspaper summary which follows sheds light on Dick's death at 57, after being the second North American to reach the summit of Aconcagua in Argentina. It is very likely that the presence of the two Italians referred to below had a bearing upon the tragedy. Dick may have descended to get help for them and become lost and exhausted in the darkness. Had they not been

there, his guide would probably have stayed with him and all would have been well. At least it is certain that Dick died after accomplishing something on which he had set his heart, and probably while in the act of seeking help for others.

Always active in civic affairs, Dick had served as president of the Port Chester YMCA and the Rotary Club, and was a trustee of the Port Chester Library. He enjoyed his membership in the Explorer's Club and served on the Council of the American Alpine Club. But best of all, perhaps, he loved to join his mountain companions and share with them experiences of the past and hopes for the future. They will never forget him.

ROBERT H. BATES

The following article appeared in the Tuesday, March 3rd, issue of *The Standard,* an English language newspaper printed in Buenos Aires:

"ANDES TRAGEDY

How Mr. Burdsall Met His Death

"Sr. Jorge Washington Flores of the Club Andinista Mendoza, who served as a guide to Mr. Richard Burdsall, the North American engineer who died after reaching the summit of Aconcagua, has given some details of the occurrence.

"He said that he left Mendoza on February 11 with Burdsall and Miss Gwendolyn Foster and three days later they were at Plaza de Mulas. By February 16 they had reached an altitude of 6,000 metres and Burdsall apparently was already feeling the effects of the rarified air. The following day they reached an altitude of 6,600 metres and late in the afternoon reached the Juan José refuge where they found Cesar Fara and Leonardo Rapicarelli of the Club Alpino Italiano. These two were in a rather bad state of health. The five of them decided to try and reach the summit next day but due to bad weather had to postpone the ascent until February 20. They set out in spite of a strong wind and at 0500 the group was at the foot of the 'canaleta' at an altitude of 6,900 metres. First of all, the two Italians tried to reach the top and then Flores and Burdsall did the same, reaching their objective at 2100 the same day. The two Italians and the American were completely exhausted so Flores

had to return to the refuge and prepare some food and hot drinks for his companions.

"When Flores returned with the food, he found that the three men had disappeared. He started to look for them and went down to 6,700 metres where he fell asleep from exhaustion. He awoke at dawn and continued his search for Burdsall and the two Italians. He found the last two as they were descending with great difficulty, being almost blinded by the snow which had been whipped by the wind against their eyes. He took them down to Plaza de Mulas and then returned to look for Burdsall. He found him at an altitude of 6,300 metres and took the American down. He died just before being taken by mule to Puente del Inca."

R. H. BURDSALL

OSCAR A. COOK
1920-1952

It is beyond doubt that a lover of the mountains would wish, if he could, to spend his last days in high alpine surroundings. In July 1952, in spite of the heroic efforts of his companions to carry him down from the 16,000-foot camp at which he became ill, Oscar A. Cook quietly succumbed to pneumonia in a remote Peruvian meadow overlooked by the gleaming snow-capped Andes. His cairn stands in these magnificent surroundings.

Oscar's mountaineering experiences began early in life on the slopes of Mt. Tamalpais, north of San Francisco, with the California Alpine Club, a local hiking group of which his parents were active members. After World War II and his work with the Manhattan Project at Oak Ridge, Tennessee, he developed a serious interest in skiing, rock-climbing, and general mountaineering, and together with other young members of the Sierra Club engaged in major expeditions to the Mt. Waddington region of the British Columbia Coast Range in 1947 and 1950. These trips revealed his cheerfulness, good judgment, and stability, qualities that earned him the widespread respect and confidence of all his friends. Oscar joined the American Alpine Club following the 1947 Waddington trip and was active in the leadership of the Sierra Nevada Section, serving as secretary in 1950 and as chairman at the time of his death.

He was concerned over the lack of contact between members of the AAC in different parts of the United States and did much to bring about the highly successful A.A.C. 1951 summer camp in the Wind River Range of Wyoming. One of his greatest hopes was for the continuation of these camps and the further broadening of A.A.C. friendships.

Oscar's life, although extending over only thirty-two years, was wide in its interests. In addition to teaching, research, and mountaineering activities, he organized and coached the California Aggies swimming and water polo teams which, incidentally, were league champions in 1950. He gave unselfishly of his time in order to encourage others to enjoy the out-of-doors and served on the Rock-climbing and Mountaineering committees of the Sierra Club, as well as the California Himalayan Committee. He was an outspoken advocate of active rather than passive participation in both sports and organizations. We can still hear him saying "What all sports need is more players and fewer spectators."

It is not span of years, but what is put into those years that counts the worth of life. Surely Oscar put the full measure of life into his few years. We who are fortunate to have known Oscar will always remember him for his quiet humor, and a very gentle and kindly perceptiveness of other people's needs and wishes, which made him not only a good expedition man but a far more skilful organizer than one might suspect from his unobtrusive ways. It is almost characteristic of him that his companions did not know that he was becoming ill, that he went without a word of complaint. And it is through his shy, unfailing sympathy for others that the world is poorer for his having gone.

KENNETH D. ADAM

DONALD WINCHESTER BROWN
1910.1952

Donald Brown died on 21 December 1952 in a tragic automobile accident near Poughkeepsie, New York. Thus ended a career into which a love of mountains and travel were inextricably woven.

Donald was drawn to the mountains, as are so many others, through the good fortune of attending preparatory school in Switz-

erland. As early as 1921 he rambled among the trailed summits of the Vaudoise Alps and, as his experience and enthusiasm grew, he tasted the delights of the Bernese Oberland, Pennine, and Mont Blanc ranges.

In 1929 he entered Harvard College and, during his residence there, his love of the mountains found a sympathetic response among the young mountaineers who have since blazed such distinguished trails across the high ranges. Thus it was that he joined college companions in summer excursions to the Alps in 1930 and 1932. Upon graduation in 1933 he passed several weeks in the Coast Range of British Columbia, where poor weather and bad luck restricted his climbing activities.

The high peaks alone could not lay full claim to Donald's enthusiasm for the out-of-doors. He was as content to wander across the lake-dotted tundra of Finnish and Swedish Lapland, or through the sub-Arctic reaches of Norway, the Outer Hebrides, or Iceland, as he was to seek the granite of the Chamonix Aiguilles or the snows of the Combin. And during the greater part of these excursions he traveled alone, living with isolated groups and studying their customs.

Undeveloped country held a particular fascination for Donald, and in 1937 and 1946 he accompanied Wiessner on reconnaissance trips to the Stikine Ice Field of British Columbia and Alaska, during which especial attention was given to the approaches to Kate's Needle.

In World War II he served with the Army Ground Forces, and, rising from a private soldier at the Mountain Training Center, he was relieved of active duty with the War Department General Staff, having attained the rank of Major.

During the post-war years Donald's law practice permitted fewer opportunities to climb, yet he was able to visit the Tetons in 1947, and in the following year he paid a final visit to the Alps, during which he travelled on foot from Klosters to Zermatt via Pontresina. This trip, a noteworthy accomplishment in itself, included many notable ascents along the way and in the vicinity of Zermatt.

A strong and enthusiastic climber, Donald sought the mountains not alone for the satisfaction of physical accomplishment, but especially through an intense desire to understand and appreciate

the fullest expression of nature. That he succeeded in such large measure and in so short a life is a tribute to his boundless energy and determination, qualities that he brought not only to his avocation but to his professional life as well. His sense of humor, dynamic companionship, and loyalty to his friends are assets that mountaineering can ill afford to lose, but they stand as bright monuments that will long be remembered and respected.

WALTER A. WOOD

JOHN BUCHAN CHURCHILL
1922-1952

John Buchan Churchill and his fiancée, Jocelyn Moore, lost their lives early last July while ascending Mont Blanc from the Italian side. They were climbing by way of the Arête de l'Innominata from the Gamba Hut and had reached the Eccles Peak Bivouac (4000 m.) when they were caught by a large rock slide. Evidence at the scene indicates that they had just arrived at the bivouac and were resting when the slide started. The avalanche of rock completely demolished the bivouac and trapped the two climbers before they could escape.

John was an enthusiastic mountaineer for most of his thirty years. Born in Berlin, New Hampshire, he got his start in the nearby White Mountains at an early age, and from that time on, his love for climbing grew steadily.

A graduate of Phillips Exeter Academy, John attended Dartmouth College until, in the middle of his senior year, he was called to serve with the Army Air Force. He flew a P-47 fighter plane over Germany until shot down by ground fire on his 29th mission. He eluded capture for ten days in an attempt to return to the U.S. lines but was finally taken prisoner.

Following the war, John received a master's degree at Yale and did further graduate study at Columbia. Meanwhile, he worked for the Federal Reserve Board at Washington and for the ECA in London and Paris. He had accepted a teaching position which would have begun last fall at Lahore Christian College in Pakistan.

Johnny's climbing career, while short, was exceedingly energetic. His impressive and detailed mountain log, which reveals the full-

ness of expression and unsurpassed joy he found on the high places, describes two ascents of Mont Blanc, eight of the Matterhorn, including the first double traverse of that mountain in one day with the late Otto Furrer and Mrs. Erlanger, four of the Zinalrothorn, and a great many others, including a considerable number of rock climbs in Northern Wales and Skye where he did his pre-season training. In this country he established a new time record on Longs Peak, Colorado, led two parties up the Grand Teton, and took part in a night rescue on Teewinot.

It was at Zermatt that John met his fiancée. Miss Moore was an honors graduate of Oxford University as well as an accomplished mountaineer. They were to have been married in Scotland last August.

The fraternity of mountaineers as well as the world at large suffered a great loss by the interruption of such a promising career. Here was a natural leader, an Alpinist both ardent and cautious, completely trustworthy in any tight spot, possessed of great endurance and tenacity, and yet friend and companion to all with whom he came in contact. He had set as his goal the highest that any climber can aspire to—Everest—and had travelled far along the trail that leads there.

ALEX B. CHURCHILL

Many of John's climbing friends believe the following words appropriate of him. A passage from the *Alpine Journal,* which he quoted in a letter, describes a climber "who walked so long facing the light that all shadows were behind him and the future held no fear."

HELEN I. BUCK

JOHN HUDSON HALL
1896-1952

Jack Hall, a member of the Club since 1921, died after a short illness in a Chicago hospital while on his way to a vacation in Montana. Heart attacks, aggravated by hot weather in New York where he had been working long hours just before his departure, proved fatal. He had appeared to be in good health and had so

regarded himself when I last saw him only a few weeks before. In our college days he and I had roomed together one winter and had remained good friends throughout the following years.

Hall climbed only in the years 1919-1925 in Montana and Wyoming, the Canadian Rockies, and in Japan on his wedding journey in 1925. Stomach trouble, developed in India, had plagued him for a number of years and forced him to give up climbing, though he never entirely lost interest. He attended occasional meetings but never grew active in Club affairs.

After the first war, during which he became a lieutenant in the infantry, he entered business. From 1925 on he was identified with the interests of the estate of Senator W. A. Clark of Montana, including those of the United Verde Copper Company. Forced to seek a less strenuous hobby than climbing, he took up philately. In this field he rose to be an authority on some of the stamps of several foreign countries and certain issues of the United States, and he had been asked to judge at a number of national and international exhibitions, both at home and abroad. He was chairman of the Philatelic Foundation in New York and a director of the Collectors Club. At one of the exhibitions of the Royal Philatelic Society in London, he had had the pleasure, on one occasion, of meeting and showing certain of the exhibits to the late King George VI, whom he found well informed and keenly interested. He also took an interest in prints and had been on the visiting committee of the Fogg (Art) Museum at Harvard.

He leaves his wife, two sons, a daughter, and a granddaughter.

HENRY S. HALL, JR.

EDWARD V. HUNTINGTON
1874-1952

Professor Huntington had been a member of the Club since 1932. He had climbed moderately in the Alps, Canadian Rockies, and Selkirks for about thirty years. In the years from 1924 on he and his wife and friends often made long pack train trips through the Canadian Rockies. In 1924, long before the road was built, the Tom Cabots, Henry Schwab, Sir James Outram, my wife, and I,

joined the Huntingtons in a trail trip from Lake Louise to Mt. Robson by way of Castleguard Meadows, down Saskatchewan Glacier, over Wilcox Pass, down the Sunwapta and Athabasca to Jasper, thence northwest over Moose Pass to Robson Pass to the annual camp of the Alpine Club of Canada, a distance of about 250 miles.

Professionally, Dr. Huntington had spent most of his career at Harvard after graduating there and gaining further degrees at Strassburg and at Lima. He became Professor of Mechanics in 1919 and later, Professor Emeritus, though active for several years more, at retirement in 1941. Standing at the top rank of his profession, he occupied the rather unusual position of teaching pure mathematics in the college and applied mathematics in the engineering school, simultaneously. He contributed voluminously to professional journals. In 1941 he achieved an ambition of more than twenty years by having enacted a Federal law to make the method of equal proportions operative in the appointment of Representatives in Congress. Upon his retirement he was presented with a beautifully bound volume of letters from colleagues, fellow scientists, and former students.

He was a kindly and gentle man, gifted with a quiet, charming sense of humor. He found that the mountains supplied a contrast and a balance in the middle years of his life, which gave him great pleasure and relaxation. He enjoyed the mountains in a way which is often overlooked by those bent only on difficult ascents, but his enjoyment was none the less deep, satisfying, and permanent.

H. S. Hall, Jr.

ARTHUR BECKET LAMB
1880-1952

Arthur Lamb, a member of our Club for 29 years, died suddenly on 15 May 1952 while on his way home from Harvard Chemical Laboratory. He was born in Attleboro, Massachusetts, of New England parentage and studied at Tufts College and Harvard University, following which he went to Germany for post-doctorate studies. Later he became Professor of Chemistry, Director of the

Chemical Laboratories and Dean of the Graduate School of Arts and Sciences (1940-43) at Harvard. He retired from the directorship in 1947 and continued as Professor Emeritus.

Dr. Lamb climbed in the Alps where his record included ascents of Zuckerhütl, Wilder Pfaff, Wilder Freiger, Sonntags Scharten, Piz Morteratsch, Pers Icefall, Las Trais Fluors and Drei Rosen; and in the Canadian Rockies where he ascended Whyte, Temple, Aberdeen, The Mitre, Victoria, Lefroy and Collier. He spent a number of summers in Switzerland and in Western Canada.

As the years went by, Dr. Lamb's occupation with his professional interests made increasing demands upon his time, because of his eminence in chemistry and particularly his conscientious and meticulous editorship of the *Journal of the American Chemical Society,* a task to which he devoted himself for 33 years. Numerous chemists remember the care with which he wrote letters discussing manuscripts which they had submitted. Under his guidance, the *Journal* achieved the extraordinarily prominent and authoritative qualities which characterize it, and which have enabled it to stand as a record of the phenomenal growth of chemistry in the United States. Dr. Lamb was frequently called upon to furnish testimony in legal proceedings in which chemistry was involved. He was apt to remark that the exposures of mountain climbing were less unnerving than the experiences of the witness stand!

Dr. Lamb received many awards in chemistry, including the Nichols Medal, the Priestley Medal, the Austin M. Patterson Award, and the Ballou Medal. He was of a calm and friendly personality which complemented a mind of great activity. The writer remembers a long conversation with Dr. Lamb about mountaineering, during the International Chemical Congress in September 1951.

Arthur Lamb married Blanche Anne Driscoll in 1923, who died some years ago. Their children David and Deborah of Brookline, Massachusetts, survive them.

THOMAS H. JUKES

BOOK REVIEWS

Nepal Himalaya, by H. W. Tilman. XI + 272 pages, including maps and illustrations. Cambridge: University Press, $4.75.

This volume is an account of three trips across Nepal, all through hitherto unknown territory — unknown, that is, to white men. On the first trip in 1949, Mr. Tilman followed the Trisuli River in Central Nepal to the Tibetan border and trespassed briefly into that country. On the second trip in 1950, he went farther west and made an attempt on one of the peaks of Annapurna and, on the third trip, in the same year, he reconnoitered the south face of Everest.

The book combines two things seldom found together in one mountaineering volume: a detailed and well-mapped account of each expedition and a witty and penetrating study of the author's companions as they are affected by the strain of mountaineering. It thus becomes both a climbing guide and a guide to climbers. Altogether, this reviewer regards it a very charming book.

The illustrations are numerous and excellent and in the aggregate give the most complete and accurate view of all the aspects of Nepal seen by the reviewer in any book.

OSCAR H. HOUSTON

Beyond the High Himalayas, by William O. Douglas. 352 pages, with 16 Kodachromes and 26 black and white photographs by the author. Garden City, N. Y.: Doubleday & Company, 1952. Price, $5.00.

Justice Douglas is outstandingly a good traveller and a pleasant raconteur. His book shows those of us who have gone through Himalayan regions with our thoughts fixed only on climbing, how many very interesting things we have missed along the way. For the Justice, talking freely, in easy friendly fashion, with everybody he met—humble hillmen, rich eastern rulers, powerful lamas—picked up a most varied and attractive collection of information, from old folksongs and folkways of the Hills to new lights on the economic and political set-up of Central Asia.

The general scene of his wanderings was along the northwest borders of India, a region familiar to members of Nanga Parbat and

K^2 expeditions. His principal journey was to Leh in Little Tibet—not over the Zoji La, but by a little-less-known route north from the Punjab. On this trip he met the typical hazards of Himalayan travel—temperamental riding mules, high passes, blizzards, and rancid buttered tea—and took them all happily in his stride. But even the Justice's unusual geniality and tact were not sufficient to avoid that almost routine Himalayan experience, a transport strike.

In Ladakh he visited the eleven-year-old Incarnate Lama of Hemis; and other journeys took him by plane past Nanga Parbat and up to Gilgit, where he visited with the Mir of Hunza; and by car from Peshawar, to dine with the Wali of Swat.

In spite of the Justice's well-known mountaineering interests, the mountains appear in this book only more or less incidentally, as background for its action—the focus is elsewhere. Justice Douglas bring us a series of colorful and amusing stories of strange places, and many thoughtful and worthwhile theories and considerable speculation about our general relations with Asiatic peoples and the political potentialities of the regions along the Indian-Soviet frontier.

ELIZABETH KNOWLTON

They came to the Hills, by Claire Eliane Engel. 8 vo., 273 pages, with bibliography and index and 17 illustrations. London: George Allen & Unwin Ltd., 1952.

This is a group of seventeen short biographies, set down in "an attempt to outline the successive conceptions of mountaineering which have arisen in the course of about a century of mountain climbing in Western Europe." The series begins with Forbes and closes with Mallory and Smythe. Most of them were British Victorians, the males nearly all, at one time or another, members of the Alpine Club. The author has done considerable research and added comments of her own. Whenever possible, the essays were read prior to publication by descendents.

Men like Forbes and Tyndall were involved in controversy over opposed theories of glacial motion, and this once delicate subject is handled with understanding. The study of Ruskin, which must have been difficult, is entirely fair. We learn, in addition, some odd facts, that the accidental death of Tyndall resulted from an over-

dose of chloral hydrate and that Justice Wills was the man who sentenced Oscar Wilde.

As Mlle. Engel is sometimes dictatorial in manners of taste, we may express our opinion that it is bad form to call Coolidge "a climbing antic of quite the maddest sort." With all his idiosyncrasy, such vituperation scarcely fits. She also pronounces him to have been "a second-rate climber," but many of the others would merit no greater distinction by modern standards. Her criterion appears to be whether or not they avoided the Chamonix aiguilles, although these were not then thought of as requisite Victorian objectives.

Even after the years, Whymper stands out as an enigmatic force, his fame based largely on an accident, and Mlle. Engel properly wonders what would have been his place in Alpine history had his party of 1865 come down from the Matterhorn unscathed. As for the Canadian expedition of 1901, it is quite wrong to say (p. 128) that Whymper never climbed a peak of the Rockies with Pollinger. Despite his known bibulous habits, Whymper and Pollinger were together on at least the following: Mts. Whymper, Kerr, Marpole, des Poilus, Collie, Isolated, and Stanley Peaks and Trolltinder Mtn.

As minor points we may mention that Giovanni (not Frederico) Segantini (p. 224) was not a victim of pneumonia but of peritonitis following a ruptured appendix, before which the medical science of 1899 was almost helpless. While Gabriel Loppé's art (p. 61) was sometimes lurid, it was not invariably so; and it should have been stated that this artist was one of the first to paint above the snow-line. He was elected to honorary membership in the Alpine Club in 1864, proposed by Alfred Wills and seconded by Leslie Stephen, the second edition of whose *Playground of Europe* is dedicated to Loppé. D. W. Freshfield wrote the sympathetic notice in *A. J. 37,* 334. The two large paintings (Matterhorn and Grands Charmoz), in the collection of the American Alpine Club (*A. A. J.* vi, 177 and frontis) are subdued in tone, faithful in outline, and include powerful studies of ice. Mlle. Engel continues her dislike of Javelle, which has not met with agreement elsewhere.

Several of the subjects are hitherto little known. Particularly we enjoyed the sketch of Boileau de Castelnau, conqueror of the Meije when he was 20, whose extensive climbing came to a voluntary end before he was 25. Three women, Lucy Walker, Miss

Brevoort, and Mrs. Le Blond, reveal diverse, tenacious personalities, and one hopes that Mlle. Engel will devote a full book to climbers of her sex, as this was but partially covered by Francis Gribble and, later, by Mlle. Morin. The book concludes with chapters on Mallory and Smythe, the only moderns included, each with the touch of a poet half-hidden in his being; each with career too soon cut short.

J. Monroe Thorington

Cordillère Blanche, by Georges Kogan and Nicole Leininger. Preface by Maurice Herzog. 160 pages, with 34 illustrations, 5 maps, and frontispiece in color. Paris and Grenoble: B. Arthaud, 1952. Price, 690 Fr. francs.

Peru's enchanting and spectacular Cordillera Blanca was visited in 1951 by a nine-man Franco-Belgian expedition. The group made first ascents of Nevado Pisco, Quitaraju, and Alpamayo. Four ascended the latter, 6120 m., "la plus belle montagne du monde," by the corniced north ridge, on which the Swiss came to grief in 1948. Also noteworthy is the founding of the C.A.F.-sponsored Andin-Peruvien Club.

A happy expedition and a delightful book. It focuses on Alpamayo, yet evokes a background awareness of the whole continent and its history. It contains mature and sympathetic insight into the characters of the various Peruvian peoples. Kogan writes in a breezy style, with a robust humor that is unforced. His description of the bath-incident in Monterrey is uproariously funny, a "natural" no press agent could have thought of. He is overly modest about the climbing difficulties and rappelling from the summit of Alpamayo. Nicole Leininger's is a subtle, gentle humor, quite human. She and Claude Kogan, "la plus forte alpiniste de France," formed the first all-female team to climb a six-thousander. It is a happy book, the finest possible tribute to Georges, who died a few months later.

David Harrah

The Butcher; The Ascent of Yerupaja, by John Sack. 8 vo., 213 pages, 8 pages of illustrations. New York: Rinehart & Company, Inc., 1952. Price $3.00.

This account of the 1950 expedition to Peru, which included four present A. A. C. members and which accomplished the ascent of

the dangerous and spectacular peak, Yerupaja (ca. 21,769 ft.), is written by a young newspaper reporter who commuted between Lima and the mountain for the United Press during the climb. Beginning with the organization of the expedition in the States, he recounts the many trials involved in getting to the mountain and then up it. Some of the incidents recited are genuinely amusing, and some are thoroughly dramatic, but the style and emphasis are naturally those of a journalist. The first part of the book emphasizes the humorous aspects of the venture, in fact overemphasizes them, while the second part deals with the actual climb in much more detail than any previously published account. From the technical point of view, the text is well printed and very readable; whereas the illustrations are extremely badly reproduced with the exception of the color photograph on the dust wrapper. Dr. Kinzl has questioned the propriety of the name "The Butcher" (El Carnicero), but it seems to have acquired a degree of acceptance. This reviewer feels that the author's rather frequent derogatory comments about Peru and Peruvians in general represent an attitude not shared by most mountaineers who have been visitors in this friendly and hospitable land and their inclusion in the book is unfortunate. Nevertheless, it is a book which may be expected to appeal to the general public and is selling well.

JOHN C. OBERLIN

Berchtesgadener Alpen, a collection of articles, issued by the German Alpenverein. 232 pages, with 100 illustrations, and a sketch map. Munich: Bruckmann, 1950.

Certainly very few mountains in the world have been so intensively climbed over as the Berchtesgaden Alps described in this book. There are several reasons for this: the large population center of Munich is not far away, and there are many week-end climbers; financial restrictions and other hardships of the Hitler regime, World War II, and the ensuing Allied occupation, have forced German climbers to stick close to home for a good many years past; finally, the German love of orderly and accurate research is reflected even in their approach to mountain climbing.

"Berchtesgadener Alpen" is a combination history and guide book issued by the German Alpine Club to commemorate the 75th anniversary of the Berchtesgaden Section.

The first 58 pages consist of a year-by-year history of the section's activities. Next follows the history of climbing in the area, starting in the last years of the 18th century, when a young priest from nearby Salzburg completed the first ascent of the 8905-foot Watzmann, the highest summit in the district. A surprising number of famous alpinists— f.i., Hermann von Barth and Ludwig Purtscheller—devoted many of their best efforts to the Alps of Berchtesgaden. An era ended in 1881 when the guide Kederbacher found a route up the mighty 7000-foot East Face of the Watzmann.

The climbing history is brought up to date by a chapter on new routes, variations, and winter ascents of recent years, many of which reflect the great skill and reckless philosophy which are trademarks of modern German climbing. How crowded Europe is, and how intensively developed, even in the field of climbing! No face without a dozen routes through it, no slab or gendarme unnamed, no route without its variations. This whole book covers an area about the size of a Rhode Island county; it speaks of "eight separate groups of mountains" and contains photos of no less than 23 club huts in this territory.

The German genius for orderly record-keeping and research is demonstrated by the statistical section of the book. There are 47 pages of statistics on every conceivable "first," peak by peak, ridge by ridge, face by face, party by party, summer and winter. This impressive array of information is dwarfed, however, by the bibliographical index, which lists 381 separate items on the Alps of Berchtesgaden.

Chapters on skiing and motoring (Bavarians are justly proud of their beautiful scenic Alpine highways) complete the picture.

All in all, this little volume is an impressive piece of work. Although probably too detailed and specialized to interest the average climber as mountain literature, it contains nevertheless much of considerable general interest, for it presents to the mountaineer a 'total' picture of a beautiful and fascinating corner of the Alps. The Berchtesgaden valley is a scenic and romantic place, which has frequently been in the center of history from the time when Charlemagne owned a village there to the time when Hitler built his "Eagle's Nest" high above the town. It deserves to be better known by American mountain climbers.

RICHARD N. MEYER

Images d'Escalades, by André Roch. 14 pages of text, with 88 photographs. Lausanne: Editions Jean Marguerat, 1946.

André Roch has presented to mountaineering readers one of the finest collections of Alpine photographs ever made. Beautifully reproduced, these pictures are much more than a series of superb mountain scenes. They are just what the title claims, "Climbing Pictures." This reviewer has seldom seen photographers that give a clearer picture of technical climbing difficulties. In many pictures it is possible to see climbers working their way up seemingly impossible routes and, although they focus the attention, they never dominate the picture. The mountains invariably dwarf climbers into proper perspective. The yawning gulfs below do not have to be imagined; they can be seen. Routes, many unbelievably difficult, are clearly described in complete captions beside each photograph and are of obvious interest to every mountaineer.

The photographs are without exception of great beauty. The numerous photographers who collaborated with André Roch to make this book possible were not content to stop their climbing for a mere moment to snap a shot. They must have had to go far out to the side or to the top of a neighboring gendarme to get the best possible spot for the picture. They must also have waited at length to get the right shadows and highlights. In several photographs wisps of cloud add enormously to the composition and impressiveness of the whole effect.

The few introductory pages give an intimate glimpse into the philosophy of a skilled mountaineer. André Roch begins by explaining the three phases involved in a great ascent. First is the preparation. The climber must work up to it gradually, training carefully on smaller mountains, then studying routes and planning the great climb itself. The ascent is the second phase, followed thirdly by memories of the day. The second portion of the introduction was particularly thrilling to this reviewer. Roch here describes his own passion for mountaineering and his feelings on a difficult lead. A climber becomes reassured, as he reads, that moments of nervousness and tension are experienced by all mountaineers, but this portion must be read to be fully appreciated.

H. Adams Carter

Le Pays d'Aoste, by Saint-Loup. 40 pages of text, with 68 photographs. Paris and Grenoble: B. Arthaud, 1952.

This latest addition to the superb "Collection Belles Pages" brings us another volume of beautiful mountain pictures marvelously reproduced. We find here not so much a series of mountaineering pictures as a well rounded group of photographs, showing all aspects of the Aosta region. Obviously in the country which abuts Mont Blanc, the Grandes Jorasses, the Grand Combin, the Matterhorn, and Monte Rosa the beautiful mountain scenery cannot be overlooked. Yet, here we see, too, peasants at work and at play, mountain hamlets, ancient villages, highland castles, and deep-cut valleys.

In the commentary which accompanies the pictures, Saint-Loup gives us a delightfully written description of the region. This book is no travel guide or a dry academic treatise on technical aspects. Its aim, admirably carried out, is to paint for us the soul of the district, which is changing rapidly as material progress pushes highways along thousand-year-old mule paths and builds hotels where formerly cattle grazed. We get a glimpse of the ethnology of the inhabitants, Celtic or Burgundian, of their long history from the time of Julius Caesar on, of the strange *patois,* of their customs to which they have clung until the present. *Le Pays d'Aoste* is a book that makes you declare you know the region even if you have never visited it and convinces you that you must as soon as possible spend some time in its valleys and on its peaks.

H. A. C.

Sur les Traces de Premier de Cordée, by R. Frison-Roche. 15 pages of text and 10 pages of commentaries on the photographs, with 59 photographs in black and white and 22 in color by Georges Tairraz. Paris and Grenoble: B. Arthaud, 1952.

Another magnificent volume has been added to the marvelous "Collection Belles Pages—Belles Couleurs." To those already familiar with the picture books brought out in the same series on the French expeditions to Annapurna and Nanda Devi, nothing further need be said about the beauty of the fine photographs and the interesting texts which accompany them. The present volume is indeed a worthy addition to the earlier works. The photographs,

well taken and well chosen, give an excellent view of the peaks around Mont Blanc and of all phases of life in the Chamonix Valley. Emphasis falls quite naturally on mountaineering pictures, to which two-thirds of the volume is dedicated. Unlike some collections of climbing photographs which convince the reader that supermen alone can undertake the sport, this book shows both the difficult and the less difficult. The introductory text, by Frison-Roche, is as well written and as interesting as one might expect from the pen of the author of *First on the Rope*. The writer describes how as a lowlander he first came to the mountains where he has made his mark and has been accepted as a guide in Chamonix. He traces the valley's early history as Campus Munitus, the closed-in valley, and tells of the first explorations carried on in the mountains. The last part of the book deals with the life of the typical guide of yesterday and contrasts it to the rather hectic existence of the present-day member of the Compagnie des Guides. Here indeed is a splendid volume to bring back happy days spent in the French Alps.

H. A. C.

Die Schweiz im Spiegel englishcher Literatur 1849-75, by Hans Lohrer. 147 pages, with bibliography and index. Zürich: Juris-Verlag, 1952.

The British visitors to Switzerland before 1850 were primarily interested in scenic grandeur, and this is reflected in their contemporary literature. In the quarter century that followed, the romantic appeal declined and the Victorian novelists use it merely as a transient background, as did Thackeray in *The Newcomes* and George Eliot in *Middlemarch*. The Swiss scene occupies a somewhat more eminent place in Matthew Arnold's poetry, particularly in *Obermann*. Charlotte Brontë, who probably never visited Switzerland, nevertheless developed a true Swiss character (Frances Henri) in her posthumous novel *The Professor;* while George Eliot, living at Geneva, scarcely utilized her undoubted appreciation of the fine things about her. On the other hand the prophets, Matthew Arnold and John Ruskin, opposed to Victorian ideals, sought better answers on the Continent, but their demands were such that Switzerland could never satisfy. Leslie Stephen, preeminently mountaineer, stands midway between these two groups, but it

is evident that Switzerland plays an unimportant and limited role in the English literature of 1849-75. With the industrial revolution the romance of natural beauty no longer sufficed to inspire notable writing.

The volume reviewed supplements Schirmer's work (1929), which covered the period to 1849 and is to be followed by Werner Steffen's continuity through 1875-1900.

J. M. T.

Flugbild der Schweiz, by Emil Egli, Peter Meyer, Walter Corti, and Eduard Imhof. Large 4to; 52 pages of text with 200 full-page plates by Swissair. Zürich: Munich-Verlag, 1949. Price Sw. Fr. 49.90.

This book continues the tradition of Mittelholzer's *Alpenflug* (1928) and Fluckiger's *Die Schweiz aus der Vogelschau* (1924). These were unique in their time, but have now been superseded by the progress of aerial photography. The pictures in the new volume are evidence of this, the finest having been selected for their esthetic and technical qualities. Topographical features, many of the highest Swiss peaks, are followed by towns and cities, castles and factories, dams and bridges, making it the best tri-dimensional representation of Switzerland that has yet appeared.

J. M. T.

Die Schweiz in Römischer Zeit, by Felix Staehelin. 8vo; xvi + 659 pages, with 205 photographic illustrations and plans. Basel: Benno Schuabe & Co. Verlag, 1948. Price Sw. Fr. 31.20.

This is the third revised edition of a monumental work first issued in 1927, an authoritative volume on Roman Switzerland, of interest to mountaineers chiefly because of its discussion of passes and roads. Since few passes of the Central Alps were in use before the Middle Ages, the chief Roman entry into Switzerland was by way of the Great St. Bernard *(Summus Poeninus),* on whose summit there was once an altar to Jupiter. The many votive offerings of officials, soldiers, and pilgrims are still to be seen in the hospice, while the mile-stones *(milia passuum,* the German *Meile* of 1.5 km.*)* are to be seen in museums. The first section of the book deals with

pre-Roman time and the Roman conquest, with the establishment of such colonies as Augusta Raurica (Basle Augst) and Aventicum (Avènches); the second section describes culture, in relation to Alpine and subalpine roads, settlements, agriculture, public life and religion. Nearly all of this was destroyed by barbarian invasion, but sufficient remains, notably at Avènches, to fairly represent the conditions of Switzerland 1700 years ago. It is amazing to find country villas, of the third century A.D., 120 feet long, with mosaic floors and central heating.

J. M. T.

Herden Glocken, by Jürg Klages. 4to; text and 78 pages of photos by the author. Zürich: Rotapfel Verlag, 1952. Price Sw. Fr. 19.50.

The author, with rucksack and camera, has crossed his mountain homeland of northeastern Switzerland, recording the seasonal changes of the alpland and the life of the herds. New-born lambs, peaceful cattle, galloping horses, hidden flowers, and towering peaks are among the subjects. The horse-alps have vanished, save at Surèn, upper Engadine, and Alp Funtauna, below Piz Kesch. One must see these pictures to believe it.

J. M. T.

Cimes et Merveilles, by Samuel. 4to ; 40 pages of text and 89 photographic illustrations, 23 of them in color. Paris: B. Arthaud, 1952.

Not to be confused with Samivel's prize-winning motion-picture of the same title, this is the author's pictorial synthesis of the Alpine world. He had not limited himself to the French peaks and, as a result of this broad-mindedness, has created one of the most entrancing books of its kind. Here are pictures selected with an artist's eye from remarkable collections: animals, birds, flowers, mountains and humans; captioned by the author in his expected humorous vein. Simple things: snails and crystals, baby marmots, a remarkable fox with a fly on his ear (fable inédite), hold one's interest equally with snowy peaks in sunshine and storm.

J. M. T.

Alpine Glaciers, by A. E. Lockington Vial. London: The Blatchworth Press, 1952. (7½ x 10¼″). Price 30 shillings.

It has been a pleasure to review *Alpine Glaciers,* written by a member of the British Glacialogical Society. Perhaps his description of the phenomena of the ice world may not be as thorough as Drygalski & Machatschek's classic *Gletscherkunde,* but what Vial's book may lack in scientific depth, it makes up, many times over, by the numerous beautiful illustrations, all of the Alps. These illustrations carry the reader back in an instant from his seat at a dingy desk in the city to a sunny afternoon of relaxation in June at the Alp Briccola (page 101), to the crunch of Tricounis against the miniature ice towers of the Gorner Glacier (page 93), or to a memory of the Mönch seen from the Jungfrau (page 120). But let the reader open the book for himself.

It is particularly pleasant that not every one of the 85 illustrations, by any means, is identified by name. One thus does not feel that the book is intended to advertise how many seasons its author had spent in Switzerland, each in a different center.

If ever the book were reprinted, attention should be called to pages 61-62, where "Schonbull," "Val d'Héréns," "Dente Blanche" occur five times.

En passant his Monte Rosa (page 112), while obviously made at least before the last war, gives the true light value to the "White Lane" of the Gorner Glacier, so generally unnoticed in ordinary photographs.

JOEL E. FISHER

Both Sides of the Pyrenees, by Bernard Newman. 8vo, 224 pages with index, sketch maps, and illustrations from photographs. London: Herbert Jenkins, 1952.

A middle-aged Englishman has written pleasantly about his bicycle tour, starting from Pau and going eastward, largely following the French *Route des Pyrénées,* and returning on the Spanish side. Although there is nothing of mountaineering, there are many detours into lateral valleys leading to high peaks, such as those near Gavarni and Luchon, which were viewed from both the French and Spanish sides. There is a diverting chapter on Andorra, another on the Basques, as well as useful itineraries which might easily form the basis of a climbing holiday.

J. M. T.

No Picnic on Kenya, by Felice Benuzzi. viii + 238 pages, with sketches and end-paper sketch map. New York: E. P. Dutton & Company, Inc., 1953.

Fuga sul Kenya and *Kenya, ou La Fugue Africaine,* the titles of the original Italian edition and the French edition of 1950, befit this remarkable story as the one above does not; for "escapade" this expedition was, with the tragicomedy which the several meanings of that word suggest. In spite of an empty title, climbers in this country will be pleased to have an American edition to supplement last year's British edition of a story which will continue to be told and retold. In it, the urges and rewards of mountaineering are displayed in a situation so strange as to be absurd, but pathetically and wonderfully so.

Benuzzi was a prisoner of war in a British camp at the foot of Mount Kenya, having been interned as an Italian colonial official in Ethiopia in 1941. Tantalized by the constant sight of Mount Kenya, he recruited two fellow prisoners and labored secretly with them for months, laying plans, procuring supplies, and improvising equipment. Eventually, in the winter of 1943, they escaped the compound, attempted Batian, climbed Lenana, and then even slipped back into the compound uncaptured.

If other mountaineers chafe under the restrictions of daily life, then Benuzzi suffered so much the more under the total loss of his freedom. If others have gained hope and delight in assembling equipment and maps, then Benuzzi experienced this in proportion to the difficulties of hammering crampons out of scrap steel from the rubbish pile (and making rings for them from the barbed wire of the compound), of altering stolen hammers into ice axes, and of puzzling out a route from such scanty evidence as a drawing of Mount Kenya on the label of a meat and vegetable can – all in secret. To contemplate leaving the numbing security of the compound for the dangers of escape, of traversing big game country unarmed, and of braving a 17,000-foot peak with inadequate clothing, the rudest of equipment, and a grave lack of food grotesquely represents the qualms and inertia of any climber breaking with the comforts of home for a while. The rewards were also magnified, and the joy of their temporary freedom was such as could only be

felt by escaped prisoners sitting high on a great peak and actually gazing down at the place of their imprisonment.

The climb was superbly impractical and pointless, as most climbs may be in a less spectacular way. In fact, the net material result was disciplinary confinement and then transfer to a sterner camp. Yet this story beautifully discloses the fallacy of such an evaluation, for the anticipation and the memory of the climb were the very things which carried these men with spirit through the tedium of their internment.

The writer has managed to carry off this account with humor and lightness. The first few pages may be too perfunctory to successfully establish the oppression and stagnation of the prison camp, but the story moves easily after that. Some readers may miss the Mount Kenya photographs of the French edition, but all will be pleased with the story.

ARTHUR K. GILKEY

Aspiring, by W. Scott Gilkison. 80 pages of text, including sketch maps and numerous illustrations. Christchurch, N. Z.: Whitcomb and Tombs, Ltd.

Well written and attractively illustrated, this short book is about one of New Zealand's finest mountains. Mt. Aspiring (9,957 ft.) is the highest peak on the South Island, south of Mt. Cook and Mt. Sefton. It rises from low, deep valleys and is outstanding in appearance from all sides. We learn that it was first climbed in 1910 by Captain Bernard Head and the two famous guides, Alex Graham and Jack Clarke, and next by Samuel Turner and companions in 1913. Our member, Miss Kate Gardiner, made the thirteenth ascent in 1936, with the guides William and Alack. The author observes, "The ascent from the West Coast has not yet been made." There are reasons why it has not. Most ascents have been made by the northwest ridge. Other and more difficult routes are gradually being worked out. Weather is the constant enemy.

Like Pascoe's book, this little volume of Gilkison's gives one the "feel" of the country, both through the excellent illustrations as well as the text. Aspiring has been called the "Matterhorn of New Zealand" because of its shape, though the climbs on it are largely

snow and ice. Crampons are essential. Routes into and up the mountain are described. At the end is a list of all ascents. Through 1950 it had been climbed 23 times. In the 1950-51 season there were eleven successful parties. As it becomes more accessible, Aspiring is at last coming into its well deserved own as one of the most popular climbs. The hardy New Zealanders now often dispense with tents and rely on snow caves for shelter near and on Mt. Aspiring. There is also a good hut, put up by the New Zealand Alpine Club, of which Mr. Gilkison is an officer.

From reading this book it is easy to understand why New Zealand climbers are being chosen for expeditions to Everest and elsewhere in the Himalaya.

HENRY S. HALL, JR.

The Call of the Mountains, by Colin Wyatt. 96 pages, 75 illustrations and 9 sketch maps. London: Thames and Hudson, 1952. Price, 35/-.

The "call" is ski-mountaineering. The places are many, but mostly less-known mountains. About eight illustrations fall short of measuring up to an excellent standard of mountain (and snow) photography. Somewhat poor quality of paper tends to lessen the effect of the fine artistry shown by Wyatt's pictures.

The author writes at a pleasing pace, shussing us by words (and pictures) from ranges in Albania to New Zealand, including Morocco, the Alps, Canada, Lapland, and Australia. These extensive journeys enable him to compare the distinctive terrain features found in different ranges. But his point of view, it must be said, is always that of a climber on his beloved skis. Of foot travel practically nothing is said. This is in no way a drawback, for his thoughts are so convincingly set down that one begins almost to share the feelings and enthusiasms for ski travel of this former British ski-jumping champion.

Here in one mountain book is a delightful combination—a charming way of telling about personal adventure, coupled with compelling photography. Therein lies the "call" for the reader.

HERBERT J. KOTHE

A Climber's Guide to the Rocky Mountains of Canada, by J. Monroe Thorington. Revised edition (fifth printing). 12mo; xxii + 345 pages. The American Alpine Club (113 East 90th St., New York 28, N. Y.), 1953. Price $4.00, postpaid.

The fifth printing of this work evidences the demand for a manual that, for more than thirty years, has attempted to keep pace with new climbs in the Canadian Rockies. The total number of peaks included now approaches 800, while more than 650 routes are outlined. Passes, nearly 100 in number, are described and indexed. Since the revision of 1943, first ascents numbering about 50 and an equal number of new routes have been added, a considerable part of the data not appearing elsewhere in print. Additions to the introductory material include a list of the huts belonging to the Alpine Club of Canada, their locations and approaches.

W. S. C.

Scenic Guides, by Weldon F. Heald. Susanville, California: H. C. Johnson. Price, $1.50 each.

Scenic Guide to Oregon. 100 pages, with photographs and maps. 1951.

Scenic Guide to Nevada. 80 pages with photographs and maps. Revised edition, 1952.

Scenic Guide to Colorado. 100 pages with photographs and maps. 1952.

These are the three most recent publications in this useful and attractive series of paperbound guidebooks to the West. The Nevada guide is a thoroughly revised edition of the first in the series, originally published more than six years ago. With many new illustrations, some in color, it is greatly improved. Guides to Arizona, New Mexico, and Utah are temporarily out of print. New improved editions will be out soon. Guides to Washington, Idaho, Wyoming, and Montana will follow.

For anyone contemplating trips of any sort in our Western states these books will be invaluable. They are suggestive and intriguing to read when planning a trip, and when it is under way, they are compact and easy to carry in the car or even in a pack. Weldon Heald knows every foot of the country he writes about,

and he takes the traveller into many unusual and out-of-the-way places. Although points of historical and scenic interest, and opportunities for outdoor recreation, are the chief concern, cities and towns with their notable features are included.

There are several arrangements which simplify the use of the guides. All the major scenic areas and points of interest, including the photographs and maps, are alphabetically arranged. Place names printed in bold-face type indicate cross references on maps and in the text, and there is a good index. Besides the fullsize state map, there are a number of detail maps of regions of special interest. A unique feature in the Nevada guide is a "Travel-Time" map showing the best time of year to visit each part of the state. The Colorado guide informs the rockhound of the many fine gem fields. But most alluring in the Colorado, and in the Oregon guide too, are the descriptions of the mountain areas; how to get to them, and what is to be found there.

HARRIET T. PARSONS

Appalachia. Index to Volumes 11-25, 1905-45, Magazine Numbers 41-100, compiled by Benton L. Hatch. 95 pages. Boston: Appalachian Mountain Club, 1952.

Fifty-Seven-Year Index, Sierra Club Bulletin, 1893-1949, compiled by Dorothy H. Bradley and George Shochat. 138 pages. San Francisco: Sierra Club, 1952.

An index to anything is a godsend if done tolerably well, and these indexes are. They make these periodicals come alive, and save time and frustration for many searchers. Indexes of climbing journals are usually labors of love rather than professional jobs, and so not to be criticized too closely. Some casual checking not only showed up no important errors or omissions, but gave me the feeling that, as indexes go, these are excellent. I say "as indexes go," for indexing is a difficult business and subject to limitations. Really complete indexing costs too much. The compiler has to decide what to omit and hope his decisions will annoy the few rather than the many. Numerous items can properly be entered under any of several different catchwords. The compiler must pick one and hope the majority of users will do the same.

As examples of what one finds in indexes the following may be noted. In the Sierra index, of a climbing party of four, three names are entered, one is not; in a botanical article the names of certain flowers are entered, others not. In the Appalachia index an article on trail signs appears under "White Mts.—Trails," and under "Trail Construction," but not under "A.M.C.—Trail System," while an article on trail bridges appears under the two last but not the first; a discussion of the expression "to hike" appears under "Camping and Tramping—Terminology," with no reference from "hike." I mention these only to show that even indexes as good as these are not perfect.

A rough estimate indicates that, while the number of pages in the two series of volumes is not far from the same, the Sierra index takes about 10,000 6-to 8-word lines of print to do the job, and the other about 16,000 8- to 10-word lines. This checks my impression that the Appalachian job is more thorough. It clearly was planned with care in every detail, sparing no effort to make it accurate, consistent, and easy to use in spite of its formidable extent.

In the following comparisons "S" means the Sierra index, "A" the Appalachian index. S uses larger type, which looks better, is easier on the eye—and costs more. S uses 22 pages for tables of contents of all volumes, which seems a needless waste of money. A indexes titles of articles as well as authors and subjects, but S does not, which seems a mistake. A runs everything in one alphabet, except that book reviews, portraits, obituaries, and the A. M. C. form large blocks of their own in their place in that arrangement. S uses four alphabets, one each for authors, book reviews, personal names, subjects. I think this latter method makes for easier use, but others may not agree. Some large libraries have sensed this and separated their huge, confusing card catalogs into two alphabets, one for authors and titles, the second for other subjects, and the system seems to work well. S runs its sub-heads alphabetically, A chronologically. It's a toss-up.

So many indexes are unsatisfactory it is a pleasure to find these two so good. Their compilers are worthy of high praise for laborious and useful jobs well done.

N. L. Goodrich

Murder on the Matterhorn, by Glyn Carr. 244 pages. New York: E. P. Dutton & Company, Inc., 1953. Price, $2.50.

The literature of mountaineering is replete with chronicles, biographies, histories, and statistics of accomplishment among the high regions of the world. Occasionally the searching eye will detect a little fictional drama within the great ranges, but only rarely do we find the mountains chosen as the setting for a murder mystery. If we do chance on such a rarity, we are apt to discover exaggerations, distortions of topography and of practice, and situations that offend the sensibilities of the mountaineer.

It is refreshing, then, to sit back of an evening and read *Murder on the Matterhorn,* whose author, Glyn Carr, has concocted a plot that will keep the "whodunit" enthusiast and eclectic mountain reader engrossed from cover to cover. Not only does the author spin a strong web of intrigue, but he writes engagingly and, best of all, he brings to the text an intimacy with the Zermatt district and with mountaineering practices that leaves no doubt of his competence as an experienced and enthusiastic mountaineer. *Murder on the Matterhorn* sets a standard that fiction writers who use the mountains as a setting would do well to follow.

WALTER A. WOOD

Meije, by Georges Sonnier. 118 pages. Paris: André Wahl, 1952.

This little piece of fiction, so poetically written, tells the tale of three climbers, a Frenchman, an Englishman, and a German, who set out to make the first ascent of the stupendous north wall of the Meije; of the unparalleled difficulties they overcome; of the unparalleled sufferings they endure for days after their accident before one of them is finally rescued . . . to climb again.

Mountaineers who are captious cynics (like this reviewer) will surely protest that even a love of mountains does not endow suffering and dying men with quite such a high nobility of soul—not to mention all the other people concerned as well. Love of mountains is a great and good thing, and a true thing. This sentimental exaggeration, for effect, is not to my taste.

MIRIAM UNDERHILL

Windslab, by Cochrane Stewart. 253 pages, with 3 sketch maps. London: Hodder and Stoughton, 1952. Price, 12/6.

Scene: an Austrian hut in the Grossglockner region.
Time: November 1945.
Weather: a raging snow blizzard.
Characters: an Austrian Huettenwart; an Austrian guide of great personal charm and professional skill, but doubtful political loyalty; a German cavalry Colonel; two British Army officers; two girls (naturally both with great beauty and sex appeal), one the widow of an old Cossack general and a maneater of the first order, the other a Yugoslavian, working for the British.

Immediately above the hut hangs a cornice 20 feet high. Between the cornice and the hut is a steep slope of windslab snow. When the wind drops, the cornice will inevitably come down, bringing the hut with it. Escape appears impossible: the two girls are incapacitated, and the valley is utterly cut off. What does A do next?

This exciting tale, told against a complicated and kaleidoscopic background of the last months of the war, would provide excellent reading, were one marooned in a hut under similar circumstances. Cochrane Stewart lived through the time he writes of. He was one of the first British soldiers to enter Austria in 1945 and was at the historic meeting when the Western and Russian armies linked up. His knowledge of the district is convincing; his British Generals, Russian Cossacks and Bolshies, German agents and local villagers are quite credible. Above all, his windslab is menacing and real from the first page of the book till the moment when it breaks over the hut with "a hissing which had grown to the strength of red-hot iron being dipped in water."

URSULA CORNING

La Neige en Deuil, by Henri Troyat. 195 pages. Paris: Flammarion, 1952. Price, 390 Fr. frs.

This is primarily a psychological novel, not a tale of mountain adventure, but it is unthinkable without its background of the French peasant's home, the little village and its inhabitants, and the savage mountains that condition all their lives. The very moving story

centers round a simple aging mountain guide and his devotion to his sheep, his home, and his good-for-nothing younger brother. We follow them on their last tragic climb and live through the hair-raising ascent of a rock face in November. The mountaineering part of the book is done with a masterly touch; the whole is a real work of art.

U. C.

VARIOUS NOTES

United States

A Belayer's Thoughts . . . . Yosemite Valley, Spring 1952. Yosemite again! The transition period between winter and spring brought its compelling force into play, drawing us to the bleak rockface barring the way to the Tree up on the face of El Capitan. A passing storm brought a foot or two of powder snow, and now, in the laughing sunshine of a new day, there were untold pleasures for the eye. Across the way, Cathedral Rock glistened with its coat of white; the smooth wall of El Capitan spoke of summer—there were no imperfections for snow to touch. Climbing up the talus, I recalled a previous year . . . . standing close to the face in the protection of the giant overhang a thousand feet above, watching as Phil Bettler climbed down from the alcove twenty-five feet above. We had gone as far as possible without using direct aid. I remembered also the endless rain falling from the mists.

"Tension!" Cold fingers tightened quickly to the command as Bob Swift pulled his 180 pounds up onto the bolt. Tedious business. A shrill whistle from above caused us instinctively to hug the rock. Other people play golf on Sundays, I thought silently, as a large slab of ice crashed into the talus, alarmingly close to the cliff . . . . yet, what *is it* that brings us here? Curse the thought. Must one have an answer? Far better to enjoy the sweetness and dispense with the inclination to study the physiology of taste! A wave of apprehension came over me and I called to Bob, around the corner from my alcove. The answer as usual was nearly unintelligible, but I gathered he was nearly ready to come down and rest a while. Working with those few bolt holes drilled in a previous attempt – not ours – was tiresome and risky. A blessing that we had brought baling wire and extra nails! The well-known whistle sent Siri and Dunmire, who were gathering water for the evening meal, rushing toward the safety of the wall. A barrage of chips and blocks loosened by the sun from the rim plunged into the snow, obliterating part of the long line of steps leading across this no man's land.

All part of the game. A bit of risk to quicken the pulse. Fun, yet not fun, it you insist.

Bob began the descent, urging me to lower him always faster. He was a mass of sling-rope, hardware, and cheerfulness . . . similar, perhaps, to those who must climb around on telephone poles and high-tension towers for money. Siri was psychologically prepared to go up and beat his hammer against the wall, or might it be his head? Striking similarity. To our surprise he began putting in a piton! Is it possible? Sure enough—there was the head, sticking out from a hidden crack. This climb is becoming disgustingly easy, I thought. A few more followed the first piton, and Will came down, retiring for the evening.

Now we would see. For months we had speculated, looked through binoculors, and speculated again. Even with the naked eye, it was hard to say whether there was a ledge above this first lead. If not, we would best give up the climb and go home. All in vain? Most of us had fallen arches from standing at the foot of the cliff, watching as the leader hammered and hammered! Isn't that reward enough?

Morning brought its reward of freshness of spirit and muscle. We responded quickly to the challenge, each wondering – hoping that the other would volunteer his services to continue the lead. Had I dreamt of those falling slabs? Seems to me I could even, upon occasion, hear the sound of the individual fragments.

In the prusik slings again, swinging slowly round and round in the air. At the high piton, rest again. Oh for a hold, a small, tiny ledge for the fingers to grip! A slab of marble might have offered fewer holds. Recalling the structure of the "Wilder Kaiser" and the Dolomites, I supposed, in a moment of phantasy, the whole of this rock mass a finely fractured limestone banding. Away with those bolts! We were climbing onward. In a matter of minutes we were at the top of the sheer cliff, a record climb! "Fantastic," said the voices, "impossible!" "The greatest thing since the Zinne Nordwände . . . reminiscent, indeed, of Dülfer's maxim: 'You go as long as it is possible, and when it is no longer possible, you make a rope-traverse and continue on.'" Simple enough, is this fundamental of climbing philosophy.

The carabiner gate clamped its jaws tight on my finger. Gone

were the voices and the wonderful magic rock with its chisseled holds. A voice cursed the tiny implement so dear, oddly enough, to the climber. I always get those things in backwards, a difficult job even for the most meticulous of climbers. Finally, a large ledge, large enough to allow both feet to stand comfortably. Dunmire began to follow.

A good ledge it was, and we soon were sitting at the base of the "Tree." Oddly, the sound of a tree frog was quite audible. Here was an isolated outpost of nature . . . unsullied by contact with its infinitely larger life-source below in the Valley. Just the sort of material for a jolly Ph.D. thesis on wild life, it seemed.

Throughout the two days, the cliffs had not budged an inch. Rock-climbing in its purest form is the safest of all the components of Mountaineering, I mused. Take river-crossing, for example . . . (I shuddered at the thought). Clearly a case of mind over matter, but quite a lively bit of matter. You step in a stream not knowing whether there is a bottom or not. But rock, well, it's there to be seen and touched. You hit it, and it usually does not move. I like rock, but maybe I'm prejudiced.

As I said, other people like golf.

ALLEN STECK

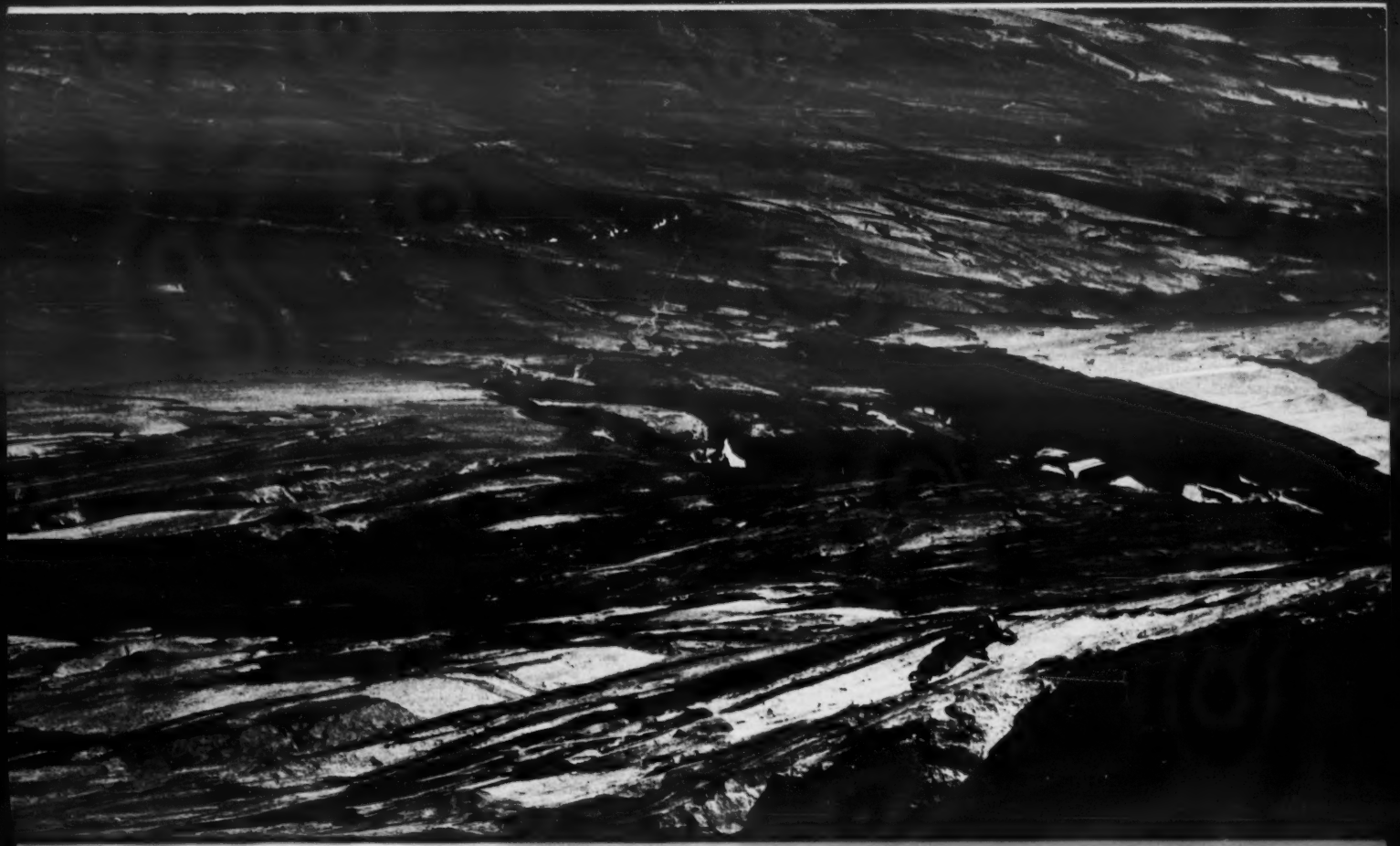
Climbs along the Canadian Boundary. The south summit of Slesse Peak was climbed for the first time 3 August 1952 by John Dudra, Herb Staley, and Fred Beckey.

On September 20th "The Pleiades" were climbed by John Dudra, Dwight Baker, and Fred Beckey. The following day the party made the first climb of the north wall of American Border Peak, experiencing difficult snow and rock sections on this long ascent.

North Ridge of Forbidden Peak. The last unknown ridge on pyramidal Forbidden Peak, in the Cascade Pass area, was climbed June 8th by Don Wilde, Jack Schwabland, and Fred Beckey. It is perhaps one of the most alpine routes in the United States: a half-mile narrow and very jagged rock crest sweeps up to the pointed summit, and on both sides is relentless exposure. At two places the northwest glacier clings steeply to the ridge, with huge overhanging

YOSEMITE POINT BUTTRESS

Steck returning from a lead. Part of route followed on first ascent to El Capitan Tree.
Photo, R. Swift



cornices, and it was at these crossings that the greatest danger was encountered. Changing from tennis shoes to boots and ice axes six times on the ridge consumed additional time.

The Environs of Silver Star. Three separate climbing trips were made the summer of 1952 to the granitic wonderland around Mt. Silver Star, one of the highest peaks in the Chelan-Methow region, harboring the most eastern glacier in the state of Washington. On the first of these excursions the party of Joe Hieb, Herb Staley, Don Wilde, and Fred Beckey climbed the summit Ulrichs describes as the "spectacular western peak," but not without overcoming natural difficulties, augmented by approaching darkness. The party also climbed a number of rock summits on Vasiliki Ridge, north of the glacier; Vasiliki Spire, Charon Tower, The Acropolis, and Aphrodite Tower were all climbs of noteworthy individuality and difficulty.

The second journey marked the first ascent of Chablis Spire, one of the four consecutive spires at the fringe of the glacier just north of Silver Star's North Peak, all of which are quite reminiscent of the Bugaboos. Dick Berge, Wes Grande, and Fred Beckey climbed a steep 1500-foot couloir facing west to reach the deep col north of Chablis Spire. The remaining 400 feet to the horned summit at first appeared hopelessly difficult for completion that day, but fortuitously one single line of hidden cracks provided the key to an interesting and strenuous route. Because of the availability of many good belay points from granite flakes and within cracks, only two pitons were used. A brief attempt on Pernod, the second spire, ended in failure.

The third visit to this region of gargantuan slabs and small larch trees came in September and resulted in the first ascents of Pernod and Chianti Spires. From a camp at the head of Silver Star Creek the party climbed moraine and ice to the eastern walls of the spires, and in 500 feet of difficult rock climbing reached the notch between these two peaks. Joe Hieb and Art Maki made a 250-foot rappell on the west face and followed a loose gully to the notch between Chianti and Burgundy Spires. This north face of Chianti Spire was found to hold the only route. Two leads contained the principal difficulties; several times the rock proved unexpectedly unsound. Had time permitted, the climbers would probably have used

ASCENT TO EL CAPITAN TREE

R. Swift leading rope. Route from this point was to the cleft with snow patch at its bottom.

Photo, A. Steck

more than the seven pitons needed for minimum safety and direct aid. Successfully reaching the block-like summit required a shoulder stand and flipping the rope over a rock flake.

Coincidentally, Don Wilde, Dick McGowan, and Fred Beckey scaled the soaring Pernod Spire. The first lead, to a one-foot ledge on the northeast corner of the peak, consumed some very trying hours. Pitons were needed several times for both safety and direct aid, and after the leader had finally climbed a very difficult crack, following several attempts, a very insecure section was reached, so a Rawl-drive bolt was placed for protection. Higher, it was necessary to use another bolt in order to facilitate an eight-foot pendulum traverse around an overhanging and flawless corner. Angle pitons of unusually large sizes were fortunately on hand, as these were needed for aid on a long crack running to the summit gable. Here two climbers awkwardly straddled the sharp rock, belaying, while the third stood balanced on shoulders, placing more bolts to reach the elusive summit. Rappells facilitated the descent to the notch, where both teams grouped and laid out long rappells to the glacier below. It was the consensus of opinion that both of these spires had been possibly the most strenuous climbs in the Cascades, but that Burgundy, the fourth spire, would be even more inaccessible than either. Along with Silver Horn and several summits on Snagtooth Ridge, it offers some sensational climbing problems.

FRED BECKEY

New Routes on Mt. Wister and Veiled Peak. In 1932, on page 19 of *The Teton Peaks and Their Ascents,* Fritiof M. Fryxell wrote: "Undoubtedly it [the north face of Mt. Wister] will furnish one of the best climbs in the range." Yet for 20 years no one even attempted this route. After viewing this face from the summit of Nez Perce in the summer of 1950, I agreed with Fryxell's estimate and was determined to give it a try as soon as circumstances permitted. Finally, Willi Unsoeld, Bea Vogel, and I made the ascent August 28, 1952. We bushwhacked up the trailless north fork of Avalanche Canyon and found an excellent campsite between Lake Taminah and Snowdrift Lake. Studying the route as the sun was setting, we could see that it had to start on the face itself, then traverse up to the right in order to get into the big chimney on the right-hand portion of the face. At 5:45 A.M. the next morning we

roped up at the foot of the chimney which was to be the first pitch. Anchoring myself solidly to two pitons, I belayed Willi as he led up and out of the chimney to the right. After a short pause, he signalled "on belay" and Bea began climbing, soon to disappear around the corner. However, before reaching Willi's belay position, she had a fall. Knowing that it would take a pretty good pitch to cause her to fall, I was ready for some real difficulty when I started upward. Once I rounded the corner, it was suddenly apparent what the trouble had been. Willi had silently led up an awkward, difficult overhang. It proved to be the hardest pitch of the climb. Two further moderate pitches led to the first big grassy ledge that we had seen from below. Two more rope lengths brought us to the second wide shelf from which we easily traversed directly into the main chimney on the right (west) side of the face. This chimney proved to be more of a gully than a chimney and hardly required a rope. The disappointing simplicity of the climb resulted in our reaching the summit and signing the register at 10:30 A.M. Finding ourselves with unexpected time on our hands, we decided to climb down the west ridge and keep traversing to Veiled Peak, a little-known, seldom-climbed 11,350-foot peak directly west of Mt. Wister. This we also climbed by a new route, the east ridge, which was not a difficult climb except for one friction pitch. After reading the record in the summit cairn, we discovered the peak had been climbed only four times before, the last time in 1940 by Paul Petzoldt and Elizabeth Cowles. We descended via the north ridge and north ledges. After leisurely spending two hours packing up our gear, we started down for the valley, reaching the road at 8:00 P.M.

The climb on the north face of Mt. Wister is a good example of how deceptive some unclimbed faces are; expecting a real battle, we brought along a supply of pitons which were never used. The five pitons which we placed were used as belay anchors only. This route is, however, probably the most interesting yet done on the peak. The same is probably true of our route on Veiled Peak.

LEIGH ORTENBURGER

The Underhill Ridge of the Grand Teton. On 7 September 1952, Arnold Guess, Fred Zachariasen, and Leigh Ortenburger made the second ascent of the southeast ridge, better known as the Under-

hill ridge, of the Grand Teton.* Starting from the lower saddle between Middle Teton and Grand Teton at 6:00 A.M., we reached the highest notch of the black dike which cuts across the south side of the Grand. Above this notch about 200 feet of reddish slabs lead to the first tower of the ridge. After climbing a few feet up from the notch, we traversed to the right to the end of a wide ledge. Here a crack zigzagged up to the left, ending underneath an overhanging slab. We roped up here. Fred used a piton for an anchor while I led the first rope length. One of Underhill's original pitons was found *above* this slab. Two easy rope lengths led to the beginning of the ledge which leads around to the left (west) side of the ridge. At the end of this ledge we climbed a 40-foot chimney, using a piton for safety. Once again an old-style, well-rusted piton was found *above* this pitch. Having read Underhill's account of his first ascent in 1931, I was looking for the very difficult chimney which he had described. It appeared that the chimney directly above us was the one he had climbed, but it did not look at all inviting, so I applied the climber's axiom and looked around the corner to the left (north) for an alternate route. A short 10-foot chimney led to the key pitch of the climb—a 60-foot chimney. I had to use two pitons for safety in leading this pitch. The top of the chimney overhung, necessitating a traverse out of it onto the right-hand wall and corner. This was a difficult step since there were no adequate footholds, but by a long stretch I was able to reach the corner handhold and pull myself up to a small, exposed ledge. Above this was a big overhang, but fortunately there was a "Thank God!" handhold out of sight above it. From there a 30-foot traverse back to the right led to the top of the original chimney. By this time the weather had begun to act up—as strong a wind as I have ever experienced in the Tetons struck us as soon as we had scrambled to the top of the ridge again. Two more rope lengths brought us to the face of the last tower on the ridge. The wind was now accompanied by sleet, turning this face into a decidedly interesting climb. We used two pitons for safety here because of the slippery rock. At the top of the face a steeply sloping ledge led around to the left (west), taking us to the knife-edge which is the culmination of the ridge proper. Above was the 1000 feet of friction slabs usually covered by snow

*The first ascent of this route was made by Robert L. M. Underhill, Frank Truslow, and Phil Smith, 15 July 1931.

during most of the summer. Making a beeline for the summit, we climbed by means of a series of connecting ledges between the slabs. This brought us to the southeast side of the summit block. Rather than make the easy traverse to the Exum ridge, we decided to attack one of the two southeast chimneys. The one on the right (north) was chosen, and soon we were on the summit at 1:00 A.M.

Why this route was completely ignored for 21 years is hard to say. It is readily accessible from the lower saddle and offers an excellent climb. Since the knife-edge is about even with the end of Wall Street on the Exum route, an outstanding combination would consist of climbing the Underhill ridge to the knife-edge and then traversing over to the Exum ridge and finishing the climb by that well-known route. It is interesting to note that the southeast, east, and north ridges—the three routes pioneered by Robert L. M. Underhill in 1929 and 1931—were all climbed that same day, 7 September 1952.

LEIGH ORTENBURGER

Longs Peak, East Face. On 5 July 1952, your correspondent, in company with his brother, Hassler Whitney, and Robert W. Craig, stumbled onto what proved to be a new route on the much studied East Face of Longs Peak. Approaching the foot of this impressive 1700-foot wall in the area between the Field Chimney ("Second Chimney") and the North Chimney, we noticed a deep crack running three quarters of the way up to that happy pastoral break in the face known as "Broadway." It was tempting to have at least a feel of it even though the mode of exit at the top was not obvious. The crack proved to vary from two to five feet in width between its smooth lateral walls. The floor was quite steep, but here and there loose rocks clung to it, while treacherous slabs occasionally almost blocked the passage. Twice, obstructing chockstones brought to my shoulders a familiarity with the soles of Craig's boots, but any dirt deposited there could not last long in the cold drip originating in a patch of snow still clinging to Broadway at this early season.

Eventually we were forced out onto the face to the left, where the climbing proved difficult and highly exposed. Characteristic of this face are the sparsity and stinginess of the holds, the downward sloping of the rock, and the tendency to flake. Though there were

but two good rope lengths to the safety of the snow patch above us, at least three hours were required to negotiate this delicate stretch. Eleven pitons were needed, and several of them we unblushingly used in direct aid. At least once the strain on my shivering fingers was relieved by the strong rope under my shoulders. Once Bob had us in the safety of Broadway, we were glad to take the shortest and easiest route back to the Chasm Lake Shelter Cabin—the second time that Hassler and I had been forced to forego at the halfway mark the pleasures of the summit.

Under dry conditions later in the season this climb would be far less unpleasant and would require less use of pitons, but it is not likely to be recommended by any of the present party. For the ambitious expert the nearby Stettner Ledges are much to be preferred.

R. S. Whitney

Black Hills, South Dakota. There are few more readily accessible rock climbing regions than the fantastic spires in the Black Hills. Probably only a half-mile from the Needles Highway are the jagged Cathedral Spires, many of whose summits have been climbed by Herb and Jan Conn. Our party, John Dudra, Herb Staley, Wes Grande, and I, had just completed the ascent of Wiessner's Chimney on the Devil's Tower. After such an arduous climb we felt ready to attempt several of the apparently more hostile spires. We found two isolated formations on a tree-covered ridge and spent a gruelling day in reaching their summits, two towers which we called "Diana" and "Andrew." A long open chimney made the ascent possible in one case, but we had to rely on artificial aids and bolts to succeed on the other. A unique method of roping and lassoing enabled us to put a man atop Laureate Tower, in three stages of rope-throwing and pully technique.

Grande and Staley attempted a route on another spire that proved too lengthy in the remaining two days, but fortunately Dudra and I had a streak of luck. With Herb Conn we had climbed Kháyyám Spire, where we found the only evidence of a previous visit, apparently made by the Wiessner party in 1937. Dudra and I had our hearts set on scaling the 400-foot rock shaft just to its south, one we fittingly dubbed Rubáiyát Spire. The first lead, into a deep chimney some 120 feet above the grass, took all morning and half

the afternoon. Most of the time was spent standing in slings, placing pitons for aid. Two bolts were needed to bypass an overhang, and when a flawless stretch prevented further progress, we luckily managed to snag a rope lasso on a rock horn and prusik-knot our way to this point at the entrance of the chimney. The latter proved feasible enough, and only on the last 50 feet was it again necessary to use a piton, and this only for safety. It had been a thrilling climb and was to prove a slippery descent and rappel, for a sudden rainstorm broke just as we started down.

FRED BECKEY

UNITED STATES: ACTIVITIES OF THE CLUBS

A.A.C.: Cascade Section. Although the Section met only three times during the year, its individual members were busy taking part in mountaineering projects of their own such as an expedition to the Yukon Territory, dedication of mountain huts in the State of Washington, and participation in mountain rescue and safety work. Early in May the Section met to hear in advance the plans for a proposed King Peak-Yukon expedition scheduled to leave immediately for the Yukon Territory. Pete Schoening, assisted by four other men taking part in the venture, described all plans in detail for the contemplated ascent of the 18,000-foot King Peak. Routes, equipment, food, supply arrangements, and chief objectives were included in this description.

Then in November a follow-up meeting was held when Schoening and Victor Josendal had returned to recount the actual success story of the expedition which resulted in the ascent of King Peak and Mt. Augusta. Movies and colored slides taken on the expedition furnished a thrilling visual account of the spectacular mountains encountered.

Early in September the Section acted as host to Prof. Hans Kinzl, trustee of the Austrian Alpine Club from Innesbruck, Austria, who was in the Pacific Northwest studying glaciers. Dr. Kinzl spoke briefly of the activities of the Austrian Alpine Club, describing their extensive system of alpine huts, and touched on his part in the 1932 and 1936 Austrian expeditions to the Andes.

During the summer climbing season A.A.C. members, includ-

ing Ome Daiber, Kurt Beam, Pete Schoening, Jim Borrow, and others, performed meritorious service in connection with several mountain rescues in the Cascade Range, resulting in the saving of a number of lives. Educational work by these men undoubtedly prevented other accidents from happening. The Mountain Rescue and Safety Council, under which this group operates, has been slowly acquiring badly needed equipment for rescue operations.

Represented by several A.A.C. members, the Section took an active part in the dedication of four new mountain shelter huts constructed through the generosity of the Mountain Cabin Memorial Association of which Ome Daiber is the founder.

The official, mythical ice-axe of the Section has been handed over to Will H. Borrow, Jr., who has been elected its chairman for 1953.

W. A. Eastman, Jr.

A.A.C.: Sierra Nevada Section. The Sierra Nevada Section held three meetings during 1952 at the homes of members in San Francisco, Burlingame, and Berkeley. The May meeting in Burlingame was our second annual dinner meeting at the home of Mr. and Mrs. Lawrence Coveney. The average number of A.A.C. members attending each meeting was about 25 with an equal number of guests. Because of the loss of Chairman Oscar A. Cook during the 1952 expedition to Peru and the recent move of Vice-chairman Robin Hansen to the Massachusetts Institute of Technology, Boston, Massachusetts, new officers were selected at the November meeting in Berkeley. Selected by the group were Will Siri, Chairman; Allen Steck, Vice-chairman; Richard C. Houston, Secretary-Treasurer. During the year Section members accomplished much in the mountaineering field with expeditions to Peru and Mt. McKinley. Much Yosemite climbing was also accomplished with several new ascents completed as described in the Sierra Club activities. Meetings for the future will be held in late February, May, September, and November.

R. C. Houston

Appalachian Mountain Club. This year the Club organized a climbing and camping outing at the Gannett Peak Camp in Dinwoody Canyon. It attracted a group of 32 climbers of all grades of

climbing ability. Ascents were made of 8 mountains. Fourteen of the group climbed Gannett. During a climb on one of the other peaks, a member of the party sustained a broken leg. Considerable difficulty was encountered in getting her out of the mountains and it was three days before she arrived at the hospital. She has since recovered and is walking again.

After spending 14 delightful days at this camp, the party moved over to the Tetons where several climbs were made. Five of the group climbed the Grand Teton.

H. Towle

Chicago Mountaineering Club. During 1952 the Chicago Mountaineering Club activities were concentrated on local outings. Eleven were scheduled with a total attendance of 239 members and 184 guests.

Thirteen members of the Club attended the Mount Assiniboine Camp of the Alpine Club of Canada last July and participated in many of the climbs. Ascents were also made in the Selkirk and Lake Louise areas. From Lake O'Hara, two parties made guideless ascents of Mt. Victoria and Mt. Odaray. W. Primak, G. Everett, and R. Mankau made a trip into the northern Selkirk wilderness with Mt. Chapman as an objective, but were turned back by five days of bad weather. Trips by other members were made to the Tetons, Glacier National Park, the Sierras, and the Canadian Rockies.

Monthly programs featuring movies or Kodachrome slides were held for members and guests. During the season, lectures were given by members on Switzerland, the Canadian Rockies, Alaska, and Colorado. Joe and Paul Stettner gave an account of the first ascent of the Stettner Ledges on Long's Peak in Colorado, a bit of mountaineering history which took place in 1927 and of which the Chicago Club is justly proud.

Mrs. Harry Lumby

Colorado Mountain Club. In May Carl Blaurock led a party of nine members into the "Four Corners Country" (Colorado, New Mexico, Arizona, and Utah) and to the eastern Utah Indian reservations and national monuments. R. Murchison and Mrs. Murchison joined the Genesee Valley Hiking Club in their outing at Skoki

Mountain, southeast of Lake Louise, Canada, in late July and early August. Later, in mid October, they traveled to the Ozarks, bringing back a hundred color slides of that area.

R. R. MURCHISON

Dartmouth Mountaineering Club. With a large group of enthusiastic freshmen, climbing activities have picked up considerably at Dartmouth. As usual a majority of new members are gleaned from the ranks of the thrice weekly climbing classes for which physical education credit is given. Emphasis has been increasingly laid upon enjoyment and safety, with the belief that spectacular ascents are only enjoyable within the limits of safety and that a Club should not take its own climbing too seriously.

At each bi-weekly meeting a short illustrated talk is presented so that members may become familiar with a variety of mountaineering areas. An application has been submitted for a club room in College Hall, where equipment, maps, and photographs will be on display. In early November a group of nine visited the rocks at Val David, Quebec, and succeeded in reaching the top of the Condor Pinnacle which had been first ascended by D.M.C. men a number of years before. Mr. John Withee, a Club member, has produced a 16 mm. movie depicting an ascent of Owl's Head (Glencliff, N. H.). This solid granite cliff, an hour's drive from Hanover, is becoming increasingly popular since the Club became reacquainted with it last spring. Several men are participating in the Arctic Research Program of the College, in which food, clothing, and equipment are being tested for use in cold weather. The group makes use of the Vilhjalmur Stefansson Library.

In the summer of 1952 a group from Dartmouth climbed in the Tetons for three weeks, after a brief stop in Colorado, and then completed a number of ascents in the Purcell Range of British Columbia, including six firsts. The Club vice-president climbed Monte Rosa in the Pennine Alps as well as making other climbs, while another member did several ascents near Dinwoody Glacier in the Wind River Mountains.

PETER ROBINSON

Harvard Mountaineering Club. This past summer, the Club put three parties, 11 members of the Club, into the Alaska Range.

Thayer Scudder organized and led the Harvard Brooks-Mather Expedition, making the first ascents of Mt. Brooks 11,900 feet, Mt. Mather 12,100 feet, and two lesser peaks of about 11,000 feet. They also accomplished a program of surveying for the Boston Museum of Science and botanical collecting for Harvard University. The Harvard McKinley Expedition of 5 members got to within 700 feet of the summit of McKinley before turning back because of bad weather. The route followed was the traditional Muldrow Glacier approach. The party was on the mountain 40 days, gaining valuable experience. Two members of the Club also made climbs in the Castner Glacier region of the Alaska Range, while another party visited the Selkirks and made first ascents of Mt. Corbin, 8897 feet, and Pyrite, approximately 8400 feet.

The Club had a very successful rock climbing program this fall and the climbing program will extend into the winter, with trips to Mt. Washington to give members experience on snow and ice and in bad-weather camping. This increased participation has made it necessary for us to develop a more extensive program for leader qualification. As during the past two years, the Safety Committee has emphasized safety in our climbing procedure.

The climbing camp run by the Club two years ago will again take place this summer for two or three weeks in British Columbia.

H. S. Francis Jr.

Iowa Mountaineers. During 1952 the Club sponsored an outstanding number of major activities. The Summer Camp in the Tetons attracted 41 participants. The Christmas holiday climbing outing to Mexico attracted 16 participants and culminated in the ascent of the three high peaks—Orizaba, Ixta, and Popo. The membership for the year was 1359.

The Club has been seriously affected by the draft and by the war in Korea. In past years the Club's most active climbers and committee members have been seniors and graduate students in the University. Most of the students are now required to take special military courses and to attend summer military camps. Almost all of the students are called into the armed services immediately after graduation, which prevents them from attending the summer camp during their senior year or while taking graduate work in the University. This situation is best illustrated by the fact that,

although the Club membership is still increasing annually, the number of active members has been slowly decreasing.

JOHN EBERT

Potomac Appalachian Trail Club. Probably the most notable ascent made during the last year was that of Devil's Tower by Jane Showacre and Jan Conn. It was the first ascent by an all-woman rope.

Arnold Wexler, Donald Hubbard, and Sterling Hendricks continued their climbing activities in the ranges of British Columbia, making a total of 7 first ascents in the Monashees.

Local activities were just as noteworthy since they involved introducing a large number of inexperienced people to mountaineering techniques and safety principles. Much time was therefore devoted to instruction of beginners with particular emphasis on *safe climbing*. The Club has made a special effort to interest new people in its activities and in mountaineering in general. During the last year local climbing trips were conducted every Sunday, in addition to weekend trips to more distant climbing areas at least once a month. Participation in these trips this year has totaled over 1200 "climber days" without serious accident.

J. REED

Sierra Club. The past year has proved a very active one for Sierra Club members. Besides the usual conducted trips to the High Sierra during the summer months, rock climbers and mountaineering members accomplished several climbs of note in the local area.

The Loma Prieta Climbing Section (San Jose-Los Gatos) explored the King's Canyon region, making some excellent Class 5 and 6 ascents. More accurate knowledge of the area will be helpful in the completion of a *Climbers' Guide* to King's Canyon rock climbs, being written by Bob Smith of the Loma Prieta group. Climbers of the Southern Section completed new ascents of the final summit lead on the Lost Arrow in Yosemite Valley. Salathé and Nelson finished this unparalleled climb from the base of the spire in five days.* Wilts and Gorin made a third ascent of the needle in August.

This past March W. Dunmire, W. Siri, A. Steck, and P. Swift made a first ascent to El Capitan Tree, which grows on the sheer

* *Sierra Club Bulletin,* Vol. 32, May 1947, describes an ascent by roping down to the notch from the rim of the wall.

face of El Capitan, several hundred feet above the talus slope. In July Steck and Swift overcame severe difficulties to gain a first ascent of the Yosemite Point Buttress. Also in July, R. Long and J. Davis made a first ascent of one route on the North Face of Clouds Rest.

In addition to these local climbs, members of the Club engaged in three expeditions. W. Long, R. Long, and R. Skinner climbed in the Bella Coola area of British Columbia and in 21 days climbed Mt. Defiance (9600 ft.) and Mt. Nutsatum (9600 ft.). Bad weather prevented further climbing. Members of the Club also went on the 1952 expedition to the Cordillera Blanca in Peru and climbed two peaks above 19,000 feet. Will Siri led this group which included Oscar Cook, Allen Steck, Fletcher Hoyt, Leigh Ortenberger, Nat Berlin, Peter Hoessly. Seven Club members also took part in the 1952 West Buttress Climb on Mount McKinley, which reached 12,000 feet before bad weather finally forced them back. These included Dick and Mary Houston, Chet and Evelyn Errett, Phil Bettler, Fritz Lippmann, and Dick Irvin. The California Himalayan Committee was also still endeavoring to get its expedition under way.

C. Houston and A. Steck

Stanford Alpine Club. Besides the weekend practice climbs on local rocks in which dynamic belaying is stressed, the Club climbed in Yosemite, Pinnacles National Monument, and Castle Crags. Two new routes were made in Yosemite, one up the face of Eagle Peak from the valley. During the winter, ski mountaineering trips were made to Mt. Shasta, Mt. Ritter, and Toulumne Meadows. An all-girl party made several first manless ascents in the Tetons. Two members were in the party which made the first ascent of La Perouse in the Fairweather Range, Alaska. Emphasis is being laid upon safety and the training of leaders and qualified second men for the climbing in Yosemite Valley.

Nick Clinch

University of Washington Mountaineers: The Mountaineers climbed in many of the best climbing areas of this continent during

the past summer. Several members took part in the King Peak-Yukon Expedition, 1952, which climbed King Peak and Mt. Augusta along the Yukon-Alaskan border. One member of the Club attempted Mt. Robson. A number of fine climbs were accomplished in the Cascade Pass area and in the Cashmere Crags. A relatively new area around Silver Star in eastern Washington was opened up and a number of huge towers were climbed with much difficulty.

The summer proved tragic for the Club with the loss of Dick Berge, our President, on the unclimbed North Face of Baring. Several other students at the University were killed in the worst summer thus far seen in the Pacific Northwest.

The Club will soon join with the Seattle Mountaineers Safety Program for extensive safety work around the campus to try to curb the tragic alpine accidents.

R. E. McGowan

Yale Mountaineering Club. During the academic year 1951-52 the Yale Mountaineering Club continued its program of rock climbing instruction at Mt. Carmel and the Shawangunks, and snow and ice climbing trips were made to the White Mountains and Adirondacks. The climbing program was oriented toward teaching the fundamental techniques of mountaineering to students who have become interested in climbing as well as toward advanced climbing for the more experienced members. Since the Club has felt it desirable for climbers to have as much experience as possible under adverse conditions, the rock climbing program was continued during the winter months. Special emphasis was placed on safety, and in that connection a program of rescue methods and dynamic belay practice was carried out. Other activities during the academic year included first aid classes, map-mounting sessions, and a project to catalog and classify the mountaineering literature in the Yale Sterling Library. During the summer the Club sponsored the Yale Logan Expedition which was a mountaineering, exploratory, and geologic reconnaissance project in the little-known Logan Mountains of Northwest Territories, Canada. Other members climbed in the St. Elias Range, Tetons, Yosemite, and the Alps.

D. W. Bolyard

Alaska and the Yukon

West Buttress of Mount McKinley, 1952. In the 1952 *Journal* it was suggested that air support is necessary for success on the western side of McKinley. Our group tried unsuccessfully to get permission from the National Park Service to drop supplies in this wilderness area; we were therefore forced to walk in to our base and take pack animals as far as possible.

California members, Dick Irvin, Fritz Lippmann, Dick and Mary Houston, flew north to the Park to meet Chet and Evelyn Errett, Phil Bettler, Paul Livingstone, and Bucky Wilson. Our pack animals were brought in from Lignite, Alaska, by Carl Anderson, and in late June we treked the 70 miles across the tundra in two groups from Wonder Lake to base camp on the Straightaway Glacier (5500 ft.). The first group moved with the pack animals and reached a point 6 miles from base camp in 3 days. Birch creek proved formidable, however, and one sturdy horse and 200 pounds of equipment were lost to the Bering Sea. This necessitated Phil's returning to Fairbanks and bringing in more supplies and equipment, delaying the group about 5 days. The California contingent backpacked across the wastes three days later and met Phil with the outgoing horses at the Muddy River which comes out of the Peters Glacier. On July 2nd we were all finally consolidated at base camp and ready to move upward. Rain had plagued us so far, but we hoped for the sun, a wish not granted for very long. Relaying, we moved our supplies to Peters Pass (8000 ft.) and on to Peters Basin below the West Buttress. After two fine days the Kahiltna pass began to pour down its almost continuous snow to the accompaniment of a steady wind, and for five days our movements were confined to the three tents. Two of them ripped, forcing us to depend more and more on our sturdy Logan tent. The wind increased in velocity with each day, reaching gusts of 75 mph. Finally we had a brief respite and moved camp to 10,300 feet, just under the Kahiltna pass and Peak, 10,750 feet. Again progress was stopped because of storms, and, after a noon break, we moved out at night and the following morning finally reached the Kahiltna Glacier at 10,000 feet. This point, which had taken us 24 days to reach with our supplies and equipment, had been the landing site for all but four of the successful 1951 group. We were of course

following the route of four of the 1951 climbers from Wonder Lake. Camp was established below the Buttress at 12,000 feet with the prospects dimming with each new day of bad weather. After a short reconnaissance and a look at our dwindling food, we decided to move downward and return over Kahiltna and Peters passes to the tundra. The outward trip was indeed hard going with 80- to 90-pound packs the rule and streams running very high. The Muddy proved to be so difficult that Bucky had to swim the roaring stream to establish a line. Each member in turn was then hauled across the high stream. The McKinley River also proved difficult and necessitated a 30-hour wait for favorable water conditions. The return trip of 80 miles from 12,000 feet took some seven days of constant backpacking, mosquito slapping, and stream crossing.

At Wonder Lake, Grant Pearson met us and we were offered our first hot-cake breakfast in some time. In retrospect it seems as if packing by horse in Alaska is difficult, very costly, and somewhat uncertain. Where air support can be obtained—and there is no reason for a ban in the wild wilderness areas—it is recommended as almost a necessity. Alaskan mountaineering is much different from that in many other areas of the world, and to be safe, men must depend on the airplane, a feature fast becoming a fixture in the rest of Alaska. Why it should be kept out of this remote, trackless wilderness, except for scientific parties, in the name of the National Park, is hard to understand, since probably only a few people will now be able to visit this magnificent side of McKinley. The airplane would allow many more mountaineering parties to visit the entire mountain. Perhaps the future will see this unfortunate ban on air support in McKinley Park lifted and replaced with regulations of a more reasonable kind.

R. C. Houston

The 1952 Harvard McKinley Expedition. The five members of the Harvard McKinley Expedition, Frederick L. Dunn, John Noxon, John Smith, Stephen Den Hartog, and I, all members of the Harvard Mountaineering Club, left Cambridge on June 11th, arriving in Fairbanks on the 23rd of that month. From there by car, train, and with horses we were established at our base camp in McGonigall Pass (5500 ft.) on July 1st. Throughout the next 17

days we established four camps: the first, four miles beyond McGonigall Pass on Four-Mile Moraine; the second, on the northern slopes of the Mudrow Glacier below the Hill of Cracks, at about 7000 feet; and the last, in the upper basin of the Muldrow below the Harper Icefall at 10,500 feet.

Instead of using the original route for the northeastern approach to Mt. McKinley, which goes along the southern side of the Muldrow Glacier below Mt. Koven and Mt. Carpé, we followed up the northern side where there is less danger of avalanches from above and where it is possible to avoid one icefall. Throughout this period the weather on the lower parts of the mountain was good; we found that we could go without a rest day for five days, the usual length of a spell of good weather.

Our first trip up Karstens Ridge was cut short at 13,000 feet by a storm that made us cache our loads and retreat to our lower camp. On the 19th, however, the weather changed, and during that day and for two more we had beautiful weather, the only good weather for the last half of the month. In those three days we established our Camp 6 at 16,400 feet, and after two days of wind and snow we took advantage of a six-hour lull to move camp up to 17,400 feet, our high camp. After four days of storm we again took advantage of a break in the bad weather to try for the summit, at least to go as high as Denali Pass to look over the other side. We succeeded in reaching the Pass (18,000 ft.) and going on up as high as 19,500 feet before we again went into the clouds that had hung over the summit. With no visibility and considerable wind and cold we decided to return to camp, determining to come back the next day if the weather improved. It snowed hard the following morning and, since we had left supplies for only two days, we packed up camp and returned to our supply cache at 14,500 feet, only to find that because of bad weather we could not get down the Cox Comb to the upper part of the ridge.

After waiting two days we arrived at our camp site at 10,800 feet and on August 5th, after 40 days on the mountain, we arrived at Wonder Lake, having gained the experience in organization and climbing techniques that we wanted. None of us had been ill nor felt any discomfiture from elevation, and all agreed that we wanted to go off on another summer's trip together.

H. S. Francis, Jr.

Yale Logan Expedition. A party of six members, Dudley W. Bolyard, Howell Martyn, John Bailar, and George Yutema of the Yale Mountaineering Club and Harry Nance of the University of Colorado went last summer into the Logan Mountains, an area of granite peaks rising to about 9500 feet along the boundary of the Yukon and Northwest territories. About the middle of July the party flew 170 miles from Watson Lake, B. C., to Glacier Lake and in a six-week period climbed nine peaks identified as Amphitheatre Peak, Marble Mountain, Snow Chute Peak, Red Wing Peak, Ice Dome Peak, Die Eisspitze, Plymouth Peak, Mt. Ida, and West Cathedral Peak. Bolyard, the leader of the party, had unexpected mountaineering problems when he fell through a snow bridge into a crevasse filled with meltwater.

R. H. Bates

British Columbia and Alberta

Ascents in the Northern Purcell Range, 1952. In late July three members of the Dartmouth Mountaineering Club, Bill Briggs, Bob Collins, and the writer, with John Briggs, arrived in Spillimacheen, B. C., to begin a trip into the northern part of the Purcell Range. During the spring we had studied aerial photographs, J. M. Thorington's books, and Prof. Rosenstock-Heussy's personal accounts of the ascent of Taurus in 1946. Our main objective was to explore the unknown section of the divide between Bugaboo and Horsethief creeks.

Accordingly, on July 28th, Dick McClain took us in his tractor-wagon combination with a month's supplies up the old road to the cabin on the forks of the Bugaboo. After a reconnaissance on the 29th in which French Mountain (7600 ft.) was climbed, we set out on the 30th for Phacelia Pass (watershed 7100 ft.) at the head of the south fork (east branch). On the pass that evening a cairn was found with a message left by J. M. Thorington and Conrad Kain in 1933. These two men had been frustrated by fog on their last climb together before Kain's death, thus delaying the discovery of the Virgin until 1946. Carrying the loads over the pass in the morning, we turned eastward up a branch of Howser River toward the Taurus-Virgin Col. At noon on August 1st we were established at Camp III (ca. 7800 ft.), 200 yards south of the col.

In the afternoon, Bob, Bill, and I made the second ascent of Mount Taurus (ca. 9820 ft.) via a new route on the southeast and east ridges (3:15 hrs.). Two towers had to be crossed and a gendarme by-passed to reach the base of the summit tower. From here a novel "sidewalk," three feet wide, led diagonally up across the vertical south face. From the far end of this, the summit and the cairn of the 1946 party were easily reached from the west.

The following day we were joined by John, who is not primarily a mountaineer, to make the first ascent of the Virgin (ca. 9500 ft.), which lies due southwest of Taurus. As on Taurus, the climbing up the southeast and east ridges was mostly on rotten Pre-Cambrian sedimentary rocks with many small towers to by-pass or climb over. The highlight of the climb was an 80-foot lead up the final quartzite cliff band to the spacious rock pile which forms the summit.

August 3rd we moved camp from the Howser drainage across the divide and down to small timber beside a glacier at the head of Forster Creek. This put us in a position to explore a block of granite peaks which slopes upward toward the south to a high escarpment which falls 5000 feet into the Stockdale-Horsethief Valley. Several smooth glaciers two-to-three miles long cover this block and drain to Forster Creek. Crossing the glacier in the Forster Valley and climbing a rock wall to the snout of the westernmost of the large glaciers, we made the ascent of *Harmon Peak* (ca. 9800 ft.), which supports the south side of a high ice dome (9400-9500 ft.). After some trouble with deep snow Bill led two delicate 60-foot pitches of slightly rotten granite to the top of the summit tower.

Since Bob's heel had been bothering him, no climbing was done the next day. During the afternoon John and I walked out on to the glacier next to Camp IV to investigate a strange funnel-shaped depression in the ice. This feature, which we called the "Whirlpool," is about 300 feet across and 100 feet deep. Our "Descent into the Maelstrom" was made by the east slope, the other walls being overhanging near the bottom. Several cracks in the bottom allowed the water to escape. A satisfactory geologic explanation of this peculiar "Whirlpool" has yet to be found.

By the next day Bob's heel was not sufficiently better, so Bill and I set out up the main western glacier, arriving easily on the high summit (ca. 10,050 ft.) at its head in 3:45 hours. At the top

we were greeted by a large, beautifully built cairn containing a message from the Geologic Survey dated 14 August 1912. Ten feet southwest of the cairn a precipice drops off to the north fork of Stockdale Creek. Thus we succeeded in making direct contact with explorations coming from the south.

The view from "Survey Peak," as we called it, must be one of the finest in the range, including as it does, the southern Selkirks in the west, the Bugaboo and Bobbie Burns peaks in the northwest, the Rockies in the east, and to the south, across the grand trough of the Horsethief Valley, the impressive masses of the Farnham and Horsethief Groups. To the southeast along the edge of the escarpment are *Mount North Star* (ca. 10,050 ft.) and beyond, Mount Sally Serena (ca. 10,000 ft.), while across the Stockdale Valley to the southwest stand the two peaks of Mount Stockdale (10,100 ft.). No trace of the mysterious Mount Aurora was evident.

Taking leave of the summit, we floundered down the northwest snow face and out onto a long northwest shoulder, where we made the ascent of the peculiar looking *Black Fang* (ca. 9850 ft.). An exposed 80-foot climb on lichen-covered granite brought us to the tiny summit where there was just room to have lunch.

The evening of August 6th, after an overnight stop at Camp III, we got back to the Bugaboo cabin in deteriorating weather. On August 9th we backpacked up to Boulder Camp, below Snowpatch Spire, to begin a second portion of our climbing. Passing through Bugaboo-Snowpatch Col next morning, we crossed 4 to 5 miles of Warren Glacier to the foot of the long west ridge of the southernmost spire in the eastern Bobbie Burns Group (probably Thorington's No. 5). The ascent of this granite spire, which we called "Wallace Peak" (ca. 9600 ft.), took about two hours and could be classed as slightly easier than Pigeon Spire, although considerably longer. From the large tabular block at the summit we could look out to most of the Bobbie Burns Group with its many unclimbed peaks and unexplored glaciers. On the return to camp we passed by the lake in the glacier which has been mentioned by previous parties.

The next morning, August 11th, Bob and John set out for Spillimacheen on foot, promising to send Dick in for us on the 15th. Bill and I climbed Pigeon Spire by the traditional route and then made the ascent of Pigeonfeather West (ca. 9400 ft.), one of

three pinnacles to the southwest. The key to the route up the face was an exposed finger traverse. On the spacious level top Bill constructed a conspicuous cairn.

Not getting started until noon on August 12th, we crossed the Crescent-Eastpost Col and hiked toward a small spire on the long southern ridge of Brenta, which is just outside the granite stock. Three hours later we had climbed its rotten north face to the virgin summit. Between this spire and Northpost Spire stands a marvelous green-blue lake, a half mile round, with the eastern shores opening onto the alplands. This Blue Lake Spire (ca. 9150 ft.) makes an impressive viewpoint for Bugaboo and the other spires.

We had the time and inclination to attempt Bugaboo Spire but decided against it because there were only two of us far from help. Our last days at the cabin, until Dick came in for us the 16th, were pleasant and relaxing. In the mornings Bill masterminded a series of pancake orgies while afternoons were spent pitching horseshoes and talking to visiting prospectors and foresters. A rich vein has been struck in the mine on Bugaboo Pass, so the road and cabin are scheduled for improvement.

Back at Spillimacheen Dick showed me a mining map of the Spillimacheen Valley which, when considered with the aerial photographs, leads to the following conclusions:

1. The western drainage of the Bugaboo Group is to East Creek and the Duncan side, rather than to Vowell Creek. This puts Howser Spire on the divide, as maintained by Conrad Kain.

2. The source of Vowell Creek is Warren Glacier, Warren Creek having no connection with the glacier. Vowell Creek flows northwestward, draining the northern side of the Bobbie Burns Group, and then bends north to join Bobbie Burns Creek which drains to the Columbia River.

PETER ROBINSON

First Ascents in the Canadian Rockies. The crumbling limestone towers of Aiguille Peak (9840 feet) rise above the Banff-Jasper Highway, west of the Mistaya. Dr. J. Monroe Thorington visited the headwaters of North Ebon Creek, southwest of Aiguille, with guide Edward Feuz and the Measurolls in 1944, making first ascents of Stairway and Aries. Mr. Measuroll's description and pic-

ture of interesting and virgin Aiguille inspired my wife, Ruth, and me, of the Sierra Club, to make an attempt.

On 1 August 1952, we packed up the Howse River on Warden Black's fine trail and over Howse Pass to camp on the upper Blaeberry (21 miles). The following day we carried heavy packs up tiring slopes crisscrossed with fallen logs, and our tent was set up at high timber on the North Fork of Ebon Creek. A valuable telescopic reconnaissance of Aiguille was made from the Aiguille-Stairway Glacier that afternoon.

Dawn of August 3rd was clear, and axes were cached after the glacier-crossing. The southwest arête was ascended unroped, and we were soon at the crest. Now roped, Ruth led down steep but sound rocks for five long pitches. Then followed a lengthy, unpleasant traverse on outsloping scree-covered ledges above cliffs dropping to the Aiguille-Stairway Glacier. The only piton required was placed on the seventh attempt! This traverse was followed by a welcome sound though steep chimney, which led to the top of the square southeast shoulder.

Above, bulging in places, rose the final summit. The only apparent chance consisted of a loose, narrow three-inch crack, overhanging slightly near the top. With Ruth belaying from a poor piton, I placed two more and reached the base of the crack. This was as unsound as anticipated, yet pitons four, five, and six each fiendishly refused to penetrate over an inch. Not daring to risk a fall on these, I snapped two slings into the highest piton before tackling the slight overhang. Piton seven, above the bulge, was the first sound one, and the leader could finally draw a deep breath. An effort to revert to Class 5 climbing only resulted in slipping off the bulge, and I sadly snapped in another sling. Delicate friction followed to a piton belay.

Despite the pack's weight, little Ruth speedily ascended the crack, extracting six of the seven pitons with regrettable ease. She led the next pitch on steep, firm rock, and the last section yielded the rather small summit. The drop-offs around us were reminiscent of Yosemite's Cathedral Spires.

On the descent, the critical pitch was passed in one long rappel. Camp was reached after 18 hours out. The following day, unclimbed Mt. Synge (9700 ft.) and Midway Peak (9570 ft.) were ascended.

J. D. MENDENHALL

Eiffel Tower. In the summer of 1951 I climbed Eiffel Peak in the Canadian Rockies, primarily for the view and the pictures that I might get. From the summit I was surprised to look across at a sheer tower, several feet lower than the peak and separated from it by a deep gap of about 400 feet. At the time I thought of it as nothing more than a spectacular oddity. It was not until the following winter at Princeton, when I mentioned the tower to Joe Murphy, that we first considered an attempt to climb it. Of its history we both knew little. Unclimbed, it had been attempted a number of times, once by a group of Swiss guides from Lake Louise. But we were unable to obtain any specific information about probable routes and possible difficulties.

Tentative talks soon turned into definite plans and at the close of college Joe, Jim McCarthy, and I, all Princeton students, headed west toward the Canadian Rockies. Arriving at Moraine Lake in late June, we set out for the tower at once. Our immediate objective was to find a route leading to the saddle between Eiffel Peak and Eiffel Tower. Crossing Sentinel Pass, we camped the first night in Paradise Valley. From there we could see the tower, but it was protected by impressive tiers of cliffs. It looked as if we might be able to reach the saddle by climbing to Wastach Pass and then traversing along the northwest slopes of the peak. With this in mind we moved our camp into Moraine Valley near Wastach Pass and set out to explore our planned route. Two days of investigation brought little success for, although we were able to traverse around Eiffel Peak to a point several hundred feet below the peak-tower gap, a 200-foot band of vertical rotten rock barred further progress. Climbing was cold and unpleasant because of the overcast weather and melting winter snows which ran down the rock in a myriad small waterfalls. Stymied in our attempts to reach even the base of the tower, we were all willing to climb elsewhere. On our way back to Moraine Lake we climbed Eiffel Peak and decided that the easiest way to reach the saddle would be to rope down from the summit of the peak.

Later in the summer Joe and I returned to Moraine Lake for another try in warmer weather. Carrying bivouac equipment, we climbed Eiffel Peak and then prepared to rope down to the saddle. Though the 400-foot drop from the summit to the saddle was nearly vertical, the wall was broken about midway by a ledge broad enough

to set up a second rappel. In that way two 200-foot rappels would bring us to the saddle. Setting up the first one, Joe descended to the ledge, but there our good fortune came to an abrupt end. When I began to lower the packs, an insecurely fastened sack suddenly jarred loose as it bounced off the wall, fell in a long slow arc, and then disappeared, rattling down an ice couloir to the right of the saddle. Gone was one sleeping bag, the fuel for the stove, and other knick-knacks, but fortunately we still had most of our climbing equipment. Our enthusiasm dampened, we continued down to the saddle, just reaching it with the second rappel. While Joe built up a level platform of rocks for the night, I sorted out ropes and tried to get some water from a few slow drips. With the platform built I lowered the remaining duffel to Joe. Attaching the one sleeping bag to a rope, I gave it a kick down the slope and, although the bag continued to roll, the rope didn't move. Joe lunged at the unattached bag as it bounced by him, and then we both stood and watched it soar down into Paradise Valley. Considering that I had now thrown most of our equipment down the mountain, Joe remained surprisingly calm and tactfully silent.

The night was long and cold with a steady breeze whistling between the dark walls that hung over us. But with the first greyness of dawn we were rewarded with a beautiful sunrise which tinted the surrounding mountains with a light pink haze. Needless to say, we were ready to climb as soon as it was light enough to see. The only obvious route was a prominent chimney in the southwest side of the tower, which could be climbed easily for about 40 feet. Above this the way was barred by an overhanging wall of wet holdless rock about 25 feet high. Since the sides of the chimney were some six feet apart, this back wall was the only feasible route. Joe led this pitch, using an abundance of pitons, bolts, and a double rope. Working, cramped, in the cold and showered by a steady spray of water, Joe did a fine job of leading. When my turn came to follow, I could better appreciate his lead. Relying on the ropes from above, I could find almost no holds in the smooth wall and the overhanging rock kept me constantly off balance. Once we had passed this barrier, the crevice narrowed and it was possible to use a regular chimney technique. Although the route continued vertical to sometimes slightly overhanging, a plentitude of good holds made free climbing possible and pitons were used only for

protection. Three more fairly long leads brought us to the top of the chimney, and from there it was only a scramble to the summit of the tower. We built a cairn, basked in the sun for a few minutes, and then started down by the same route. Several long rappels brought us to the base of the chimney where we were amazed to meet two spectators, Mr. and Mrs. John Mendenhall, who had journeyed here for a crack at the tower. Since the hour was late, they decided to return to Moraine Lake with us. They kindly gave us food and showed us an easy way back. Traversing from the saddle around the north side of the tower, we came out at the saddle between Eiffel Peak and Pinnacle Peak. From here we slid down scree slopes to Larch Valley and arrived at Moraine Lake in time for dinner.

With the exception of the one nasty pitch, Eiffel Tower provides a wonderful chimney climb on surprisingly sound rock. The Tower can be easily climbed from Larch Valley in one day.

T. A. Mutch

Northern Monashee Mountains, 1952. This summer, Sterling B. Hendrick, Donald Hubbard, and I spent three weeks climbing and exploring in the northern end of the Monashee Mountains of British Columbia.

We chartered a plane to fly supplies and equipment over the mountains and to drop them at two suitable locations. On the morning of July 22nd, we flew from Kamloops, B. C., in a 1928 Junkers float plane, up the North Thompson River, across the mountains, made drops on the Serpentine-Dominion Névé and on "Pancake Glacier" to the South, visually surveyed the area from aloft, selected a suitable way into the country, and then returned to the base.

The following day, we traveled by Canadian National Railroad to Gosnell. There we shouldered packs, followed a logging road over a shoulder into the valley of Moonbeam Creek, and then "bushed" up the true right side of the stream. The actual travel time was roughly a day and a half, with an extra day spent in dehydrating men, clothes, and equipment after some wet weather. A camp was established at timberline.

After entrenching ourselves on the mountain slope, we climbed to the Serpentine-Pyramid Névé to recover our northernmost air

drop. This was done on a day of mist and clouds and limited visibility. The bundles were covered with new snow and scattered over a one-mile radius. With persistent searching and probing, we recovered all of them.

The first ascent was made on Tuesday, July 29th. We climbed a peak which was reputed to be the highest in the range. It was an easy climb, up a rocky ridge to a lower summit, down to a col and up a snow slope to the main peak. We christened the mountain "Dominion Peak." It had an elevation of about 10,350 feet. To the south, however, there were obviously higher peaks.

The next climb entailed an attempt on "Mt. Monashee," which appeared to be the highest summit in this immediate cluster of mountains. The only problem in reaching the top (ca. 10,650 feet) was a bergschrund followed by a 50-foot, 50-degree pitch of soft avalanching snow on bare ice. From the top of "Monashee," we saw a fine peak to the immediate north. Since the day was still young, we decided to traverse across to it. There were some nasty pitches of slabby, loose rock, but these were soon passed and the summit gained. On the top, we found a natural cairn which "out-colossaled" anything ever built by Colossal Enterprises. It is a gigantic rock formation so like a ceremonial Japanese gate that we named this peak "Mt. Torri."

On August 1st, we set out on a cross-country jaunt to see if we could reach Mt. Hallam, some 25 to 30 miles to the south. Three days later, after crossing a succession of ridges and valleys, cols and streams, we reached the snout of Foster Glacier, which drains the northern slopes of Hallam Massif. The less said about the bush and the back-packing the better. We had our usual share of the ardor of cross-country mountain travel and the necessary low-level evils that go along with high peaks, snow, and ice.

The next day, we set out to climb Hallam. Across the glacier was interposed an interesting icefall. A route was devised up the true right edge to the upper catchment area. To get to Hallam, it was necessary to traverse two intervening peaks, "Mt. Deception" and "Mt. Milton." Except for the descent from "Milton" to the Milton-Hallam col, the climbing was relatively easy. This descent, however, brought its moments of intense concentration as we worked our way down some loose, disintegrating steep schist, which to the south dropped some 2000 feet to a big cirque area.

Some steep-looking summit slabs on Hallam resolved themselves into a simple rock scramble, and we were on top.

After the Hallam climb, we retraced our steps to our Moonbeam Creek base camp, stopping halfway at "Pancake Flats" to climb "Mt. Pancake," which rose just to the South of "Pancake Flats."

On August 11th, on our way across the Pyramid-Serpentine Névé, we took time out to climb M. Lemprière. This was just a walk up the southern snow slopes. On the top, we found the remains of a camp which a survey party had left in 1949. Scattered about were bedroom slippers, torn trousers, used-up batteries, tin cans, pots, pans, candles, and a conglomeration of odds and ends which must have taken a fantastic amount of effort and energy to backpack up to the top. The next day, we began our journey down Moonbeam Creek and, the following morning, emerged on to the railroad track in the North Thompson Valley to pick up a train back to civilization.

In all, we made eight ascents, seven of which were first ascents and one, Mt. Lemprière, a third.

ARNOLD WEXLER

Peaks of the Bella Coola. The Coast Range of British Columbia holds many untouched groups of peaks. Among these are the snowy summits just south of the Bella Coola Valley. These mountains have been visited in previous years by a very few and most of the peaks are today unclimbed.

It was in the Bella Coola mountains that a small group, Robert Skinner, Dick Long, and I, were privileged to spend three weeks during the summer of 1952. Although our climbs were not numerous, we had many experiences in penetrating an area about which we could find little information.

The four previous expeditions to the area had written somewhat vague descriptions about it and maps were of a very general kind. Of most help were the articles written by the late Don Munday, following his explorations in the late thirties. Peter K. Schoening's description of his climb of Mount Saugstad was of help. So, after looking at the literature and listening to verbal descriptions, plans included Bella Coola.

Obtaining leave from the Air Force survival school Robert

Skinner and I, joined by my younger brother Dick, motored to Vancouver, B. C., from where the Union Steamship Ltd. provided transport up the British Columbia coast. At the head of North Bentick Arm, some sixty miles from the open sea, lies the town of Bella Coola and the mouth of the Bella Coola River and valley. It was here that three peculiar looking fellows disembarked with loads on their shoulders weighing over 100 pounds each. In the packs were equipment and food for three weeks in the mountains. The three weeks were not to prove the type of work that a mountaineer loves even though they were to be full of work and adventure.

After discussing the back country with some of the village elders, we were certain that the mountains we sought lay at the head of Noomst Creek. Perhaps the single individual most helpful was Clifford Kopus, proprietor of the local dry goods store. Our stay in Bella Coola was brief and very shortly we were riding up the valley in the autos of local friends we had made.

Heavy packs and little knowledge of the area were the chief factors in our decision to climb Mt. Noosatsum before making the trek up Noomst Creek. This peak is the local religious mountain for the Indian population and overlooks the Bella Coola Valley about 20 miles up the river. The northern slope of the mountain rises from an elevation of about 500 feet to the summit at 9600 feet. Topped by a rock spire, the mountain is very beautiful.

Taking only five days food with us, we cached our remaining supplies and packed up Cahootin Creek, which flows between Mount Defiance (named by Henry Hall, Jr. and Don Munday*) and Mount Noosatsum. By the end of the second day a camp was established at timberline on the east side of Noosatsum. A day of storm kept us in camp, but next day we were off. Our route led across a small glacier to the north ridge of the mountain just below the final rock tower. Traversing the northeast face we gained the eastern ridge after a rather cold hour or two of moderate climbing, using the rope constantly. The summit lay up the ridge, scarcely 300 vertical feet away, and, after negotiating a rather enjoyable arête, we were eating our lunch on a perch just below the summit – out of a cold, biting wind.

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* See Munday's account of this region, *C.A.J.*, 1937, pp. 41-49.

We were successful not only in reaching the top of the mountain but in gaining a view of the peaks to the south among which we planned to climb. Directly across from us to the east was Mt. Defiance which was to be our next project. We would try it from the far side after returning to the Bella Coola valley and ascending Noomst Creek. This was to be several more days in the future than we planned.

From the mouth of Cahootin Creek to the mouth of Noomst Creek was six miles. To cover this distance took two days of very hard going. The brush through which we pushed and our 90-pound loads were a nightmare. This was to be somewhat easier than Noomst, however. Three days after starting up Noomst Creek we found ourselves nearly six miles upstream with the going becoming steadily worse. Since upstream progress was halted, we started up the canyon wall to make a camp near timberline on the eastern slopes of Mt. Defiance. We were now in position for our second ascent.

Clear weather spurred us on as we neared the glacier that twists down the east side of the mountain and we were faced with negotiating the 200 feet of steep glacial snout. Step cutting proved the answer, followed by more ice antics on an icefall midway up the glacier. By this time day was drawing to a close and we had just attained the rocks several hundred feet below the summit. Rather than turn back, we decided to risk a bivouac and make the summit. At four-thirty in the afternoon we had reached the top of Mount Defiance. Now we faced the problem of reaching camp before dark. To do this would mean finding a route that bypassed the glacier. With luck on our side, we found the route and were at camp by nightfall.

Time had slowly elapsed until we had less than a week remaining, so we realized that we were not to reach the peaks at the head of Noomst Creek. There was one outstanding crag which had caught our eye on the ridge south of Mt. Stupendous and on the eastern side of the headwaters of Noomst Creek. Our last project was to attempt this fine peak which we chose to call "The Horn." Reaching timberline across the canyon from Mt. Defiance, we traveled south until stopped by storms. On the next clear day our party made a last effort to reach and climb this Horn. By noon we reached the base of the peak and by mid afternoon were at the

top of the glacier which flanks the peak on the north. The ice-covered rocks that towered above us nearly a 1000 feet were not to be attempted at that time of day. We returned to our camp to leave the following day in a storm for the Bella Coola valley.

The weather was finally catching up with us. Our trip began in California August 22nd and ended in California September 23rd. We were therefore not surprised to encounter a few days of poor weather; rather we were greatly surprised to have had as many sunny days as there were.

Travel through the dense brush soaked by rain was quite a gruelling walk, but at last we reached the Bella Coola River and, after half a day of exciting episodes, we forded the river to the road on the northern side of the valley. Soon we had covered the 30 miles of road to the settlement and were awaiting our steamer.

WILLIAM E. LONG

EUROPE

Führer Fest, Zermatt, Switzerland, 1952. Because of the unprecedented cold and stormy weather in the Swiss Alps, last fall, I had finally resigned myself to the thought of leaving Zermatt on Sunday September 28th. The most recent storm had left a foot or more of fresh snow on the high peaks of the Valais, which precluded all thought of attempting the Obergabelhorn by the Southwest Face, or even the usual route, for we had been turned back to the Rothorn Hut only the previous day by icy blasts and crusted snow knee-deep on the Trift Glacier.

As I was saying goodbye to my old friend Adolf Schaller, he said in his quiet way, "But you must not leave yet, for tomorrow we are having our Führer Fest in the Grand Hotel Zermatterhof, and I would like you to come as my guest."

"The Führer Fest!" I exclaimed. "That is only for all of you who are guides in the Valley." But his persuasive smile and quiet assurance that "I would be very welcome" was hospitality and an honor I could not lightly refuse.

It was not without considerable misgivings that I found myself next day at the appointed hour of half after noon, threading my way between groups of guides gathered in the lobby and lounge

of the Grand Hotel Zermatterhof, where, in the spacious dining hall, clustered around the many small tables, drinking aperitives, were many more guides than I had ever imagined existed in the Valley of the Visp. Young guides and old, tall guides and short, fair guides and dark, Biners, Perrens, Furrers, Aufdenblattens and Julens, these and all the many other familiar and famous names of Valais guides of the past were here represented. For, handed down from father to son, has come that inborn knowledge of ice and snow, serac and crevasse, couloir and avalanche slope, gendarme and rockfall. Bearded or smooth-shaven, blond or brunette, slender or stocky, they had one trait in common, that sturdy self-reliance of the mountaineer who has faced great odds in nature and won through to a respectful understanding of her laws and the penalties she may exact when they are ignored.

While I was attempting to locate Adolf Schaller, there before me, with blue eyes twinkling and red cheeks glowing, stood Josef Biner, kind and understanding friend of many seasons, who indicated with a cordial sweep of his hand that I was to seat myself at his table. This I was very happy to do, for the sudden lull in the low rumble of masculine conversation which had followed on the heels of my invasion of this exclusive gathering of guides from all of the many little villages up and down the length of the Valley, had been a trifle disconcerting. Once seated, however, I was soon busily engaged in exchanging climbing experiences and news of this and that with Josef and his friends. Before our brimming glasses had been emptied for the second time, luncheon was announced, and we were ushered into the long private dining room that looks across the garden and up to the Matterhorn, now veiled by swirling mist and thick draperies of wet snow which turned to rain as they reached the stormbound valley. Down the long table prettily decorated with miniature Swiss flags and gay bouquets of bright flowers, we walked, seeking our places as indicated by charming place cards decorated with dainty drawings of tiny flowers.

When everyone had found his place Rev. Father Gregor Brantechen said a brief grace. As we seated ourselves I found that I was placed between a Rev. Franz Fux, Vicar, on my left, who spoke fluent French, and Elias Lauber, a guide, on my right, who spoke German. While we were being served a variety of good

things to eat and drink, I mustered up what French I had learned in school and conversed with my left-hand neighbor. He had spent two years of his preparation for the priesthood in Innsbruck, which I, too, had visited during the F. I. S. Rennen of '32. But my six lessons in German at the Berlitz School were not quite so productive of small talk when matched with the difficult Valais dialect, and I am afraid that my luncheon companion on my right found me very dull company indeed.

After some three or four courses had been served by shy, smiling girls of the village, there was a general settling back into chairs as pipes, cigars, and cigarettes were lighted. The flow of conversation slowly increased in volume and was only broken when Bernard Biner, Chef des Guides (son of Alois Biner, who had been Chef des Guides before him) stood at his place at the end of the long head table and, as Master of Ceremonies, prepared to introduce the first speaker.

To my surprise and utter consternation I found that he was addressing his opening speech of welcome and introduction to "The American lady—Frau Orcutt." Before I could collect my thoughts I, too, was on my feet facing some 90 or more guides and speaking to them in very hesitating English, though I would have liked to have paid them the courtesy of addressing them in their own colorful dialect. I am not certain that I can tell you what I said to them. I do know that I thanked them for the honor they had conferred on me by inviting me to share with them their annual get-together at this Führer Fest, a privilege and memory I would long treasure and would share with my fellow members of the American Alpine Club when we all met in December on the occasion of the Fiftieth Anniversary of the founding of our Club. I told them that I had noticed many changes which had taken place since I had last visited Zermatt, and that I was quite certain that during this interval of sixteen years the mountains had grown a lot higher and my legs a lot shorter. Aware of their eagerness for climbing news, I told them what little I knew of the coming expedition to K2, and I could see a happy gleam in the eye of Alex Graven when he learned that Charlie Houston was to lead the party, for they had climbed together on Monte Rosa the previous summer. I told them already I had heard enthusiastic reports of climbs my friends had made with their fellow guides at Lake Louise, Walter

Perren and Edmund Petrig, and that the climbing world mourned with them the loss of Otto Furrer with whom so many members of our Club had climbed or skied and who was so greatly admired and loved by all. I told them that we in America hoped that more of them would find their way to our side of the water where they would be warmly welcomed, and where they would find new peaks to conquer.*

CHRISTINE L. ORCUTT

ASIA

Sikkim Himalaya, 1952. For one continuous year I had been tied to a desk in the teeming, sweltering city of Calcutta and it seemed time for a change. The Sikkim Himalaya, only a few hours away by plane, offered excellent mountaineering possibilities within the four-week period that I would be able to have off during October.

After three months devoted to organization and to obtaining the necessary permissions, three of us left Gangtok with about 20 porters on October 3rd. Our party was comprised of Mrs. Monica Jackson (British), Roger Vaughan (Australian), and myself, and among our porters we had five Sherpas with previous high-altitude experience, Lhakpa Tsering, Lhakpa Gyelbo, Gyalzen, Nima Tensing and Pemba Norbu. The first three had been above 23,000 feet with recent French and British expeditions in Nepal. Accompanying us for the first week of our journey was Trevor Braham, secretary of the Himalayan Club, accompanied by six Sherpas under the leadership of the well-known Ang Tharkay. Trevor's party left us at Lachen to cross the Sebu La and make an attempt on Chombu (21,000 ft.) in north central Sikkim.

At the start we were harassed by a series of minor crises. One of these was almost major. The permission which had been granted us to enter northeast Sikkim was cancelled shortly before our departure. This ended our plans to make an ascent of Pauhunri (23,385 ft.). The latter would have been relatively easy since it lies

* In the library of the Club house, framed and hanging on the wall, are the signatures of the guides who attended the Führer Fest in Zermatt, on 28 September, 1952.

climatically and physiographically on the Tibetan plateau where the weather is clear and the slopes more gentle than in the Matterhorn-like topography to the south. However, Pauhunri lies exactly on the Sikkim-Tibet border, and probably for this reason our plans aroused the fears of the authorities. In desperation we applied for an alternative and were granted permission to go up the Tista Valley as far as Lachen and there turn left to enter the Zemu Valley. This locality is renowned for its large glaciers, heavy snowfall, and bad weather; we were therefore skeptical at the start. However, the country includes seven great peaks of the Himalaya: Kanchenjunga, Simvu, Siniolchu, The Twins, Nepal Peak, Tent Peak, and the Sugarloaf, all ranging in height from 21,000 to 28,150 feet. Furthermore, the region has historical interest for a mountaineer; from the Zemu, the Bavarian expeditions of the thirties had made their ascents of the Sugarloaf, the North Peak of Simvu, Siniolchu, Nepal Peak, and the renowned attempts on Kanchenjunga via the Northeast Spur. In October 1952 on the Zemu the only remaining records of their efforts were a few rusted cans at old campsites and the large cross and cairn, at the foot of Kanchenjunga's east face, which marks the grave of Hermann Schaller.

In eight strenuous days, some of them in 90 degree tropical heat, we climbed with heavy loads from 2000 feet in the jungle to 16,000 feet on the Green Lake plain. At one of the dak bungalows in the Tista gorge we were at 4500 feet and had an excellent view 30 miles away of the whole of Kanchenjunga, framed in clouds above the gorge of the Talung Chu. It was at this stop that we signed the bungalow register and, on turning back the pages, found that the names went back to 1912. On the pages for 1922 and 1924 were the signatures of George Leigh-Mallory and members of the Everest expeditions; further on were those of Paul Bauer, Uli Weiland, Adi Gottner, Gunther Hepp, and others of the German Kanchenjunga team, most of whom were to die on Nanga Parbat in the tragedy of 1937. The same Sikkim that had greeted them greeted us now. Not a particle of change had touched this land in 30 years.

We set up our base camp on October 11th at 15,700 ft. amid the grass, gentians, and edelwiess of the Green Lake plain beside the Zemu glacier. Thanks to the generous assistance of the

Himalayan Club, in particular Mrs. J. Henderson of Darjeeling, we had been well-provided with porters and equipment for a prolonged stay above snowline.

On the morning of October 12th we set out with the intention of visiting the Nepal Gap (20,000 ft.), lowest point in the ridge which runs north from Kanchenjunga to the Tibet Border. However, we changed our plans at mid-day and decided to attempt a 20,100-foot unclimbed and unnamed peak which overlooks the Hidden Glacier and the pass leading from the Zemu region into Lhonak. All day long the three of us, with five Sherpas, struggled up a scree and rock slope and eventually were able to find a place level enough for three tents, in a snow hollow at about 18,500 ft. Roger, whose leave time was running out, left us at this point to return to camp with two Sherpas. It was at this 18,500-foot camp that we had our only spell of altitude sickness. Lhakpa Tsering, Lhakpa Gyelbo, and I lost our lunch while setting up the tents, and both Monica and I were affected by sleeplessness. We had recovered by morning, however, and the five of us set off for the summit. It took about four hours, first across a glacier and small icefall, then a long snow climb culminating in a conical peak from which we had a magnificent view. Kanchenjunga loomed up behind us, only a few miles away. The mists were swirling at its base and its summit was capped by an ominous crescent-shaped cloud that gave us much worry throughout the day; ordinarily such clouds mean an approaching storm, but this one turned out to be a false alarm. To the west, the view of Everest was blocked by the great east wall of Tent Peak. To the southeast the crest of Siniolchu stood alone above the clouds. Freshfield had called it "probably the most beautiful mountain in the world." From our vantage point, its unbelievably steep ridges and fluted walls loaned weight to Freshfield's remark; as seen from the old German base below, its symmetry bears out the truth of his statement. To the north from our summit lay the arid Lhonak valley, flanked on the far side by a high range; all of the passes through this range are above 18,000 feet, and through one of them, the Chorten Nyima La, we could see the limitless expanse of the Central Asian plateau. To the northeast lay the great peaks of northeast Sikkim—Chomiomo, Kanchenjau, and Pauhunri, and to their right, hazed by the distance, rose the lone mass of Chomolhari in Tibet.

We wasted no time in descending, as the weather was threatening. Our 18,500-foot camp was packed up in a jiffy and that night we rested in the comfort of the base camp. It snowed all night, but the next morning was again clear.

We started out on October 15th with three porters for an attempt on the Sugarloaf. The altitude of this peak is given on the German map as 21,150 feet; by John Hunt in his 1937 account as 21,400 feet. It had been climbed once, by the Germans in 1931. Since then Hunt had made two unsuccessful attempts, and one small ill-equipped postwar party had completely disappeared on the mountain, leaving only one porter who returned.

It took us two days of tiresome boulder-hopping to reach an altitude of 18,000 feet, where we placed a camp. One of these days was spent reconnoitering to the base of the northeast spur of Kanchenjunga, in order to obtain a clear view of our route up the Sugarloaf. On this reconnaisance, as well as on our climb later, we were able to get some excellent views and photographs of the north col of Kanchenjunga, together with the approach to the Twins from the south. The latter did not appear difficult, and had we been able to spare more time, it would have been a good possibility for a first ascent (of the eastern Twin). As it is, this will have to wait for the next effort. A circuitous but possible route to Kanchenjunga would lie up from the Twins glacier to the south slope of the Twins, then down onto the North Col, and from there to the summit of Kanchenjunga. This would be the only possible way of reaching the North Col from the Sikkim side, as the slopes of the col itself are too steep to permit direct ascent, and on the left an ice cliff blocks the way at about 23,000 feet on Kanchenjunga itself. On the day after the reconnaissance, as we were proceeding under a moraine wall of dubious reliability, Monica questioned the Sherpas about the safety of the place. Lhakpa Gyelbo replied, "This place safe, mem-sahib; dangerous only if rocks fall." No rocks fell.

We were approaching the mountain from the south, via a glacier that would lead onto the west ridge at about 20,000 feet. At 18,000 feet the boulder slope up which we had come ended in a V, flanked on the left by the heavily-crevassed Sugarloaf glacier, on the right by the rock walls of a subsidiary peak. Where the V pinched out it was impossible to go further; rock cliff, ice cliff,

Top: SUGAR LOAF FROM GREEN LAKE PLAIN
Bottom: KANCHENJUNGA
The summit is about eight miles away
Photos, R. H. T. Dodson

and boulder slope all came together in a welter of icefall and overhangs. This had not been the case in the thirties, as shown by our German map. In fact, so much melting of glaciers had occurred that in places the snouts had retreated over a half mile and the location of crevassed areas was very difficult now compared to then.

We reconnoitered the pinch-out; we reconnoitered for 1000 feet up the rock cliff in an effort to get over it; we finally reconnoitered across the glacier itself, dodging crevasses all the way, and found a similar boulder slope on the far side. This also pinched out, but with the help of much step-chopping and a few ice pitons we managed to get over the 100-foot icefall and onto the smooth glacier slopes beyond. Our Camp was pitched at 19,500 feet that night, October 18th. The temperature fell to 8 degrees above zero and a wind piled the loose powder snow against our tents. On the 19th we had to make our bid for the summit as only two days of food supply and kerosene remained.

At 6:30 we were off. The steep slope leading from the glacier to the west ridge presented no technical difficulties but made slow going because of the thin air. We would go ten steps, then sink to our knees and pant from three to five minutes—another 10 steps, another 3 to 5 minutes, and so on. At last we gained the ridge. It was narrow and corniced. Soon, at about 20,500 feet, it ended abruptly against a 400-foot rock gendarme. At this point, Monica, who had done amazingly well for her first trip above 11,000 feet, decided that discretion was the better part of valor and turned back to camp with Lhakpa Gyelbo and Nima Tensing. Gyalzen and I continued on. It took us two hours to climb the gendarme. The rock was steep and rotten granite, but the sun was warm and the wind had died down. I led the way and Gyalzen followed without difficulty. The exposure was severe, but there were many good handholds despite the loose rock and we had enough pitons to ensure safety for the leader. Finally we emerged on top, where the snow ridge began again. Up we went, slowly picking our way along the corniced arête. Suddenly we reached a small dip in the ridge, followed by a 60-foot very steep pitch. It had a four-foot cornice on one side, a very steep 4000-foot icewall on the other. The 60-foot ridge itself was extremely steep. We threw a handful of stones at it, picked from a nearby rock jutting from the ridge. A thin layer of powder snow slid away, causing a snowslide down

THREE HONORABLE MEMBERS OF THE A.A.C., MOUNT COOK IN THE BACKGROUND

A. P. Harper, G. W. Young, and N. E. Odell at The Hermitage, New Zealand, February 1953

Photo, New Zealand Alpine Club

the northface. Gyalzen, who had been following eagerly until now, shook his head and said, "Too steep, sahib—*Avalanche!*" I took his advice, although it was difficult to give up in fine weather, with plenty of energy left in us, with the morning only half-gone, and with only an hour's climb remaining along the gentle snow ridge leading from our 60-foot pitch to the summit. At this point, about 21,000 feet, we turned back.

Our camp was packed up the same day and we moved down the mountain, camping that night just below the icefall. On the next day we wanted to make a one-day detour to visit Schaller's grave at the foot of Kanchenjunga's 10,000-foot east face, but our faithful porters looked downcast when we mentioned it. On quizzing them, we discovered that we had just consumed all our milk and sugar. "Mem-sahib," said Lhakpa Gyelbo to Monica, "when plenty food Sirpas always follow Sahibs—but no milk, no sugar, Sirpas no go anywhere." Grateful for the fine job that they had done, we were in no mood to insist, and so the five of us pushed on to the base camp.

On the 21st we spent our last day among the peaks, camped near the old German base. The moonlight played on the slopes of Siniolchu directly above us as the laughter of the Sherpas around the juniper fire filled the night air. With regret we left the snow to descend into the tropics.

R. H. T. Dodson

N. B. On October 26th our permission to remain in Sikkim north of Gangtok was cancelled, but as we were already beyond recall it did not affect our trip. We discovered later that this cancellation had been due to a directive issued from New Delhi, enforcing an old British 19th century law that draws an "inner-line" about 50 to 100 miles south of the Indo-Tibetan frontier, forbidding all foreigners to go north of the line. As far as I know, all peaks above 20,000 feet in India and Sikkim fall north of the inner line. It appears, therefore, that the only remaining chance for high climbing in the Himalaya is in Pakistan (Nanga Parbat and Karakoram) and Nepal, although the latter is beginning to tighten up also. I intend to apply for permission to enter Nepal in either 1954 or 1955, in order to approach the same Twins—Sugarloaf-

Kanchenjunga area from the Nepal side, now that Sikkim is sealed off, but have my doubts about whether the authorities will grant it.

R. H. T. D.

Mount Everest. In 1952 the Swiss made two strong attacks on the Nepalese side of Mount Everest, one before and the other after the monsoon.

Following the route discovered by Dr. Charles S. Houston and H. William Tilman in 1950, and unsuccessfully attempted by the British under Eric Shipton in 1951, the pre-monsoon party went in to the mountain through Namche Bazar and on April 23rd reached the foot of the Khombu Glacier, where they established their base camp at 16,500 feet. From there a medial moraine led them easily to the site of Camp 1 at 17,220 feet at the foot of the wildly broken up icefall which rises 2,500 feet to the floor of the West Cwm. To find a route up this first major obstacle was no easy task. It was there that the British had failed the year before. The first two reconnaissances, made by Dr. Gabriel Chevalley, René Dittert, René Aubert, and Raymond Lambert, ended in miserable failure among the yawning crevasses and tottering séracs. André Roch, Léon Flory, Ernest Hofstetter, and J-J. Asper decided to make a last desperate attempt on the left side of the icefall which was overhung by a 5,000-foot slope covered with hanging glaciers and scarred by avalanche troughs. At first, this route seemed too dangerous because of the avalanche threat, but it was the very debris of the avalanches which filled many of the cracks and allowed the party to advance. Finally a last crevasse barred the route completely, leaving no way around. After descending into the crack and climbing the precipitous far side, the climbers managed to rig a rope bridge. From then on they crossed by means of a Tryolean traverse.

The work of reconnoitering higher began immediately, while the Sherpas, under the direction of several Swiss, brought load after load up the icefall. The pack route was not easy, as it led past towers of precariously balanced ice, over huge, ever-changing crevasses which they crossed on tiny snow bridges, through avalanche debris, up precipitous icy slopes. Twice pack parties were nearly caught by avalanches. The Sherpas were, however, more than equal to the task. Camp 2 was placed on a comparatively flat

spot in the icefall at 18,370 feet, two and a half hours march from Camp 1. Camp 3, at 19,350 feet, was a half hour above the rope bridge on the floor of the West Cwm. By May 10th an average of six Sherpas a day had brought 60 loads up to this camp.

Meanwhile Dittert and Chevalley reconnoitered the glacier above and placed Camp 4 at the foot of the cirque that leads to the South Col at 21,150 feet. The supply system was extremely well organized. Seven Sherpas relayed loads from Camp 3 to Camp 4 early in the day and then returned to the rope bridge to receive loads there which they carried back up to Camp 3.

Camp 5 was established higher on the slope leading to the South Col at 22,630 feet. After Chevalley and Asper made a reconnaissance above, they retired in favor of Flory, Aubert, Lambert, and seven Sherpas, who were to make the first try for the summit. The plan was to set up camp on the South Col, send back three Sherpas, and run the final high camp up to about 27,500 feet.

After a false start in threatening weather the day before, the party set out on May 25th, but it was almost immediately crippled when one of the Sherpas had an attack of malaria and was forced to return. They advanced along the rocky spur they called the "Eperon des Genevois," aided by ropes previously fixed by the reconnaissance party. At 24,000 feet they reached a cache and added supplies to their loads, but progress was slow, and 500 feet later, they had to send back two more of the Sherpas and add their loads to their own. As they did so, a sleeping bag slipped out of their hands and fell down the slope, lost forever. By seven o'clock they saw that they could not reach the South Col; a bivouac was inevitable. In a part of the spur slightly less steep than the rest, they carved out platforms which, though hardly adequate, did serve to hold two tents. For fear that they might roll down the slope in their tents, they stayed roped, left their crampons on, and did not get out their sleeping bags. All were in very bad shape by morning. Three Sherpas descended to pick up loads abandoned below while the Sirdar of the Sherpas, Bhotia Tensing, and the three sahibs continued on upwards. They reached the ridge at about 26,250 feet, some 400 feet above the South Col into which they had to descend. In Camp 6, on the col, they spent a much better night, but the three Sherpas were in such bad condition that they had to be sent

back, while Tensing continued with the sahibs. On May 27th the attack continued along mixed rock and snow above the South Col. By three in the afternoon they reached the summit ridge of Everest at 27,550 feet. It was decided that Tensing and Lambert would spend the night there in a bivouac tent but without sleeping bags or stoves. They were equipped with oxygen. Flory and Aubert descended to Camp 6 to wait in support.

The night was miserable. The climbers had little food and it was very cold. The only water they could get was by melting snow over a candle. At 6 A.M. they left for the summit attempt, carrying oxygen equipment and a little food. The climbing was not difficult on the snow and easy rocks, but the weather was unsettled. They climbed over two bumps on the ridge and then reached a corniced portion where the snow was knee deep. They struggled on until they were nearly at the base of the summit rocks, only about 800 feet away, but they realized they could not make it and wisely started back. The descent was nearly as slow as the ascent, but by 3 P.M. they reached Camp 6. The next day the climbers were replaced by a second team who spent two days on the South Col without trying to go higher because of the wind and their own bad physical condition. Thus ended the pre-monsoon attempt.

Cho Oyu. A strong British party failed in its pre-monsoon attempt on Cho Oyu, 26,750 feet, in Nepal, only about eighteen miles from Mt. Everest. Under the leadership of Eric Shipton, the group consisted of the Canadian Campbell Secord, three New Zealanders, E. Hillary, H. E. Riddleford, and G. Lowe, and the Englishmen R. C. Evans, A. Gregory, R. G. Colledge and T. Bourdillon. Reconnaissance showed that there was no hope of climbing the peak from the south as they had hoped to do. They turned to the west and established a depot at 19,400 feet. Above this rose a series of ice cliffs. After the first ice cliff was surmounted, a camp for six Britishers and six Sherpas was placed at 21,000 feet. The main ice barriers above were obviously impossible and the attempt was abandoned. The members of the expedition continued to climb and reconnoitre the region, ascending 11 peaks that ranged from 20,000 to 22,600 feet and explored the Nup La to the West Rongbuk Glacier on Mount Everest.

Chaukhamba. There were several expeditions to the Garhwal Himalayas in 1952. The most notable was the French party which

climbed Chaukhamba, 23,420 feet, in the Gangotri group. The mountain had previously been attempted unsuccessfully by the Austrians in 1938 and the Swiss in 1939, who miraculously escaped from an avalanche that swept the party down from their camp on the northeast ridge and killed two Sherpas. Following the Swiss route from a base camp on the Bhagirath-Kharak Glacier, the expedition placed an advance base camp at the foot of the peak on June 8th. Camp 1 at 15,800 and Camp 2 at 17,700 feet were established in the next two days. From Camp 3 at 19,500 feet Lucien George and Victor Russenberger, the only Swiss members of the party, made the climb to the summit on June 13th. Edouard Frendo had to turn back less than 500 feet from the summit. A second ascent was unsuccessfully tried by Gérard Géry with two Sherpas the next day. They reported that the chief difficulties were caused by the threats of avalanches between Camps 1 and 2 and the deep snow that lay on the northeast face. Other members of the expeditions were M. Lecam, P. Repiton, and Mlle. Marie Louise Plovier.

An English party consisting of T. H. Tilly, D. C. Bryson, J. A. Jackson, K. Kempe, and R. K. Misra were also climbing in this region at more or less the same time. After exploring the Bhagirath-Kharak and Satopanth Glaciers, they gave up all hope for Chaukhamba because of the wintery conditions and reconnoitred the Bagneu Glacier where they attempted a 20,260-foot peak, which they named "Avalanche Mountain." After being caught in a rather serious snow slide, they gave up the ascent for the time being and turned to Nilkanta, 21,640 feet. Later, Jackson and Bryson returned to Avalanche Mountain and climbed it. Their second attempt on Nilkanta, which they made along with Russenberger and George, was stopped by the beginning of the monsoon high on the mountain.

Kamet. An admirable expedition to Kamet, 25,431 feet, was organized by Maj. Gen. H. Williams, Chief of the Royal Engineers of the Indian Army, to acquaint young Indian officers with the high Himalayas. The Indians who took part were Maj. Narenda D. Jayal, Maj. Mark Valladares, Lt. K. C. Johorey, Lt. P. P. S. Bhaghat, Lt. Manohor Lal, all Royal Engineers, Flight Lt. Nalni D. Jayal, and Gurdial Singh. With five Sherpas they established

on the mountain five camps, above which soft snow turned them back about 600 feet from the summit.

Rubal Kang. On June 26th K. E. Snelson and J. de V. Graaf of Cambridge University, with Pasang Dawa, who previously had climbed on K2, reached the summit of Rubal Kang, 20,300 feet. This peak lies at the head of one of the four glaciers explored by the party in the Dibibokri Basin.

1953 Expeditions. This year promises to be one of the most active ever in the Himalayas. A British expedition* under Col. John Hunt, consisting of 12 members with 4 in reserve, is leaving for Everest in February for another try at the southern route through Nepal. Meanwhile the Russians report that they are training hundreds of climbers in the Himalayas; so we may well see a race for the world's highest summit. The British have also received permission from the Nepalese government for an expedition to Dhaulagiri. Meanwhile the Germans are making their plans for an assault on Nanga Parbat. In Vienna, the Austrians announce the organization of an Austrian Himalayan Foundation, which hopes to send out a party this year to explore some of the lesser known regions. The Japanese Mountaineering Club made a good reconnaissance to prepare for an expedition to Manaslu in Nepal in 1953. The 16 members will leave for India in April.

Of greater interest to the members of the American Alpine Club are the American expedition to K2 in 1953 and the projected California Himalayan Expedition to Makalu or Dhaulagiri in 1954.

H. Adams Carter

Miscellaneous

Letter to the Editor:

Over recent years there has been an increasing public interest in high mountain climbing, as evident from the many accounts of climbs which rank as best sellers.

Among American-published books there is, unfortunately, a tendency to crop the margins of magnificent mountain illustrations,

* Word has just been received of the successful ascent of Mt. Everest by this expedition, 29 May 1953.

to make the slopes appear steeper than nature. Such deceit is, I know from personal experience, not the doing of the authors or of their sponsors, or even of the staff of the publishers, but of some assistant editor, way down the line, who is overwhelmed with the idea of impressing the public. As soon as he gets the photographs, he tilts them until they show slopes of the steepest which he thinks any public will accept; he crops the margins on the diagonal to persuade the reader that the vertical is as it appears—and, presto, no one, all the way through to the author, has any evidence on which to blame anyone.

The increasing multiplicity of such distortions of the truth, attempts to improve on the Almighty, suggests that the American Alpine Club step forward and enlist the cooperation of the other leading climbing clubs of this country and abroad in impressing upon their members the necessity of insisting to their publishers that no illustration of theirs shall be reproduced with margins cropped on diagonals, so as to distort the vertical—and let each club then be its own judge in case of violation.

Sincerely yours,

JOEL E. FISHER

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Information concerning possible articles and notes for next year's issue should be forwarded to the Editors, *American Alpine Journal,* 113 East 90th Street, New York 28, N. Y., before the end of the current year.

* Deceased.